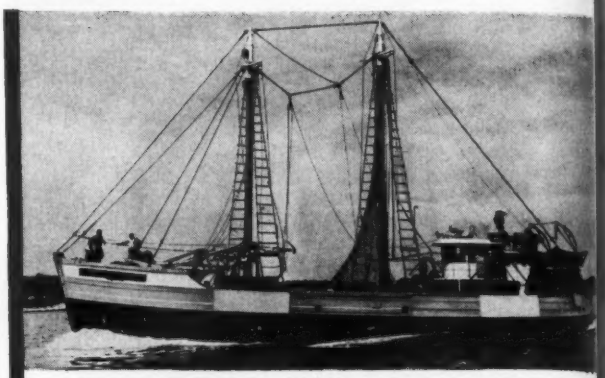
ATLANTIC FISHERMAN

MARCH
1954

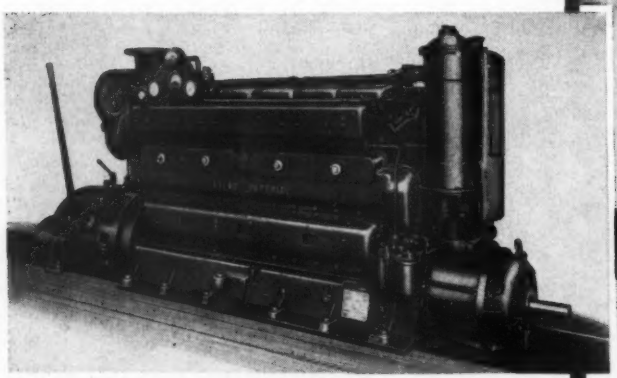
SERVING ATLANTIC COAST • GULF OF MEXICO • GREAT LAKES

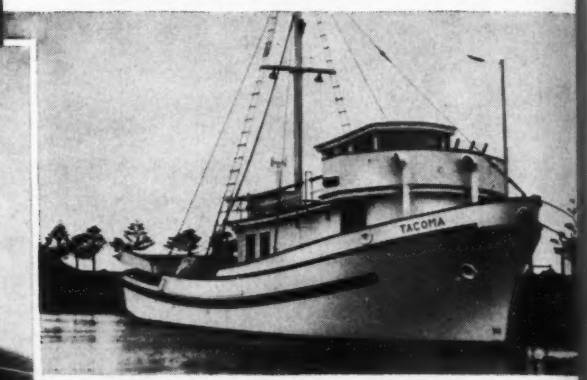
For Years of Rugged Sea Duty

The ATLAS Model 35 DIESEL



"Our Lady of Fatima," a 103' dragger that has been making record hauls, is powered by a dependable 400 h.p. ATLAS Diesel.



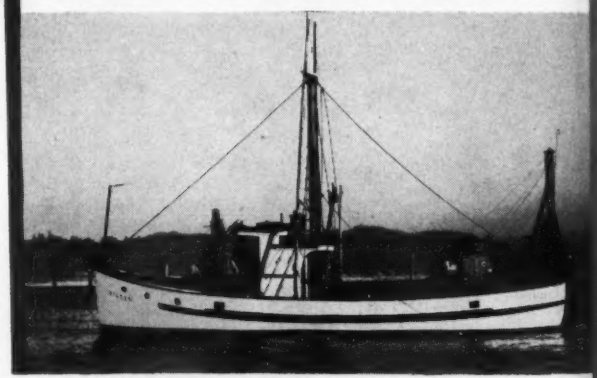


Australia's first purse seiner, the "Tacoma," gets her power from a 240 h.p. ATLAS Diesel which also handles her 300-fathom-long tuna net.

Compact, thrifty, with the stamina that stems from unstinted quality in construction, the ATLAS 35 is your answer for years of dependable fishing power. Easy access to working parts and decreased weight per horsepower are other things you'll like about this "fisherman's" engine.

The pictures show examples of ATLAS-powered "standouts at sea."

For information on how dependable and economical Atlas and Superior Diesels can help to establish record hauls for your fishing craft, ask your nearest Superior-Atlas representative. Ask, too, for a copy of the new bulletin on the Atlas Model 35 Diesel.



In 17 years of fishing, the owners of the "Eileen" have spent only $162 for parts and labor for repairs to her ATLAS Diesel.

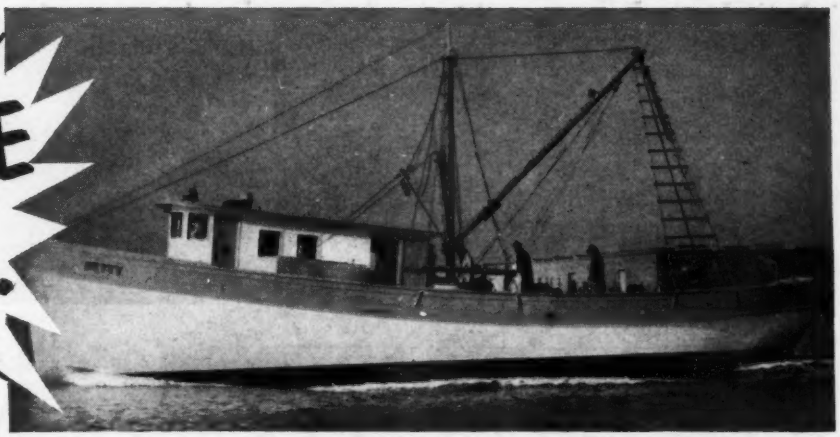
DIESEL DUAL FUEL GAS — ATLAS — Superior ENGINES — DISTRIBUTOR OF Lister DIESELS IN U.S.A.

THE NATIONAL SUPPLY COMPANY

ENGINE DIVISION PLANT AND GENERAL OFFICES: SPRINGFIELD, OHIO

SALES AND SERVICE POINTS: Gloucester, Massachusetts • Houston, Texas • Fort Worth, Texas • San Diego, California • Oakland, California • Terminal Island, California • Ketchikan, Alaska • Washington, D.C. • Chicago, Illinois • Portland, Oregon • Astoria, Oregon • Casper, Wyoming • Halifax, Nova Scotia • Vancouver, B.C. • Toronto, Ontario • Park Rapids, Minnesota • New York, New York • Seattle, Washington • New Orleans, Louisiana • Pittsburgh, Pennsylvania

ONLY THE BEST...



BEST DESIGN · BEST WORKMANSHIP · BEST CONSTRUCTION · BEST MATERIALS

AND OF COURSE . . . That means the BEST marine storage battery—SURRETTE.

"Exceeding all expectations, the trawler BETTY of Port Isabel, Texas, makes a great addition to the Brownsville Fleet."
Morehead City
Yacht Basin, Inc.

- Greatest capacity in least space.
- Longest Life.
- Highest power per pound of weight.
- Thick—high—positive plates.
- Engineered and built for marine use.

MOST POWERFUL LONGER LASTING

Surrette Marine Batteries can be obtained from the following distributors

W. N. White & Company, Halifax, Nova Scotia
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Surrette Supply Company, Peabody, Massachusetts
Marblehead Yacht Yard Inc., James E. Graves Co., Marblehead, Mass.
Louis Posner, Fish Pier, Boston, Massachusetts
Leo's Battery Service, New Bedford, Massachusetts
Robert Horman, New Haven, Connecticut
West Haven Shipyard, West Haven, Connecticut
Maripet Supply Corporation, New York 17, New York
Freeport Marine Supply, 51 W. Merrick Rd., Freeport, New York
George Wingerter, 164-02 Cross Bay Boulevard, Howard Beach, L. I., New York
Marine Electric Corporation, Brooklyn, New York
United Boat and Dock Service, City Island, New York 64, New York
Sutter Brothers, Gerritson Beach, Brooklyn, New York
Charles W. Rogers, Manasquan, New Jersey
Marine Equipment & Supply Company, Philadelphia 6, Penna.
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Nat Gates Jr. & Son, Annapolis, Maryland
Johnson & Towers, Baltimore, Maryland
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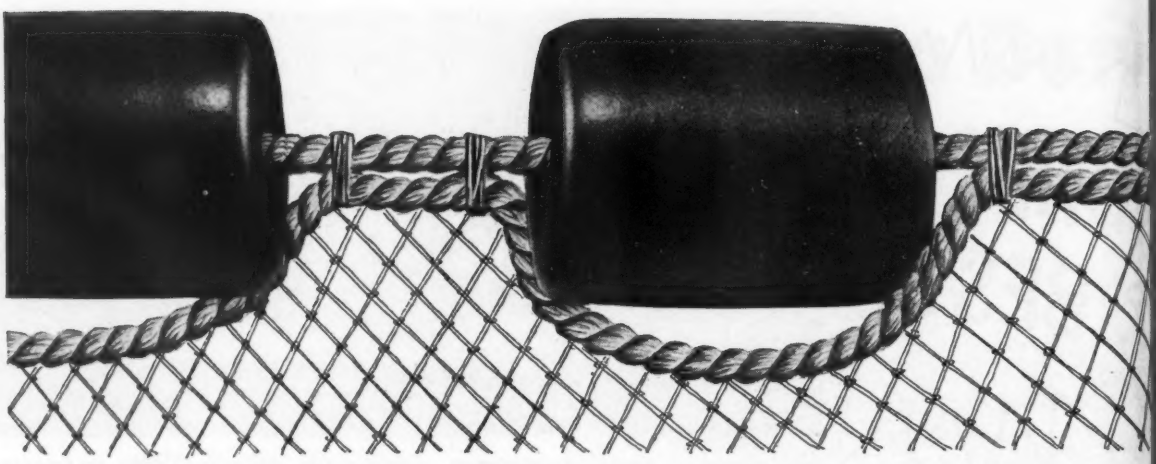
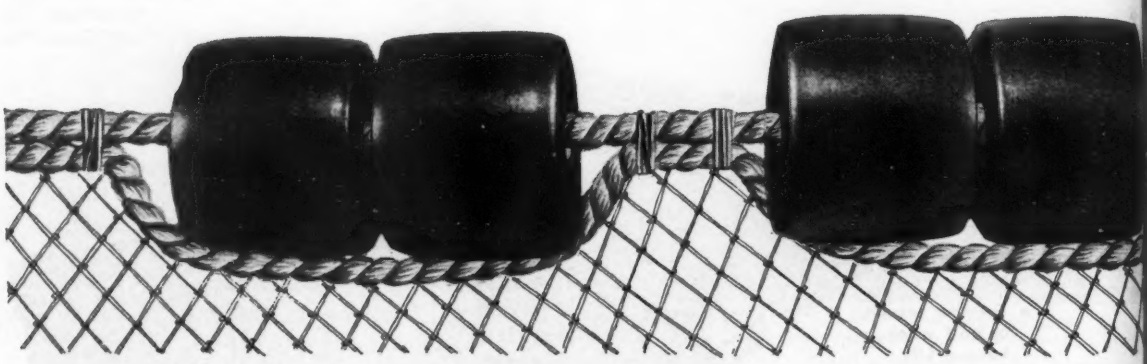
Norfolk Marine Company, Norfolk, Virginia
Machine & Supply Company, Beaufort, North Carolina
Hay Oil Company, Charleston, South Carolina
Marine Motors Sales Corporation, Jacksonville, Florida
Diesel Sales Company, Inc., Miami 36, Florida
Chapman Electric Company, Mobile, Alabama
Kennedy Marine Company, Biloxi, Mississippi
Olympic Power Application Company, New Orleans, Louisiana
Byrne & Rice Supply Co., Morgan City, Louisiana
Lake Charles Marine Sales, Lake Charles, Louisiana
McIntosh Electric Supply Company, Beaumont, Texas
Houston Engine & Pump Company, Houston, Texas
Nash & Cotton, Galveston, Texas
Producers Marine Service, Port Isabel, Texas
Ewing Battery Company, Brownsville, Texas
Marine Electric Service, Box 56, Port Isabel, Texas

Surrette MARINE BATTERIES

Surrette Storage Battery Company, Inc., Jefferson Avenue, Salem, Mass.



Better than Cork! Cheaper than Cork!



NEW SPONGEX SEINE FLOATS

give you these advantages:

- Spongex floats cost less than cork.*
- Spongex floats are more buoyant than cork . . . fewer Spong floats are needed.
- Spongex floats last years longer than cork. Their buoyancy unaffected by water-logging, punctures or cuts. They do rot . . . harbor no marine growth . . . never need drying-
- Nets and lines do not foul on the smooth plastic surface Spongex floats.

*Cost of the Spongex float, averaged over its size range (3½x3, 4x3, 4x6, 6x6¾, 6x7½) is less than cork in correspond sizes. And, as the Spongex float has greater buoyancy . . . buoyancy versus cork's loss to water absorption . . . the cos increasingly less.

These Spongex floats are brand new. Your supplier may not have t yet. If not, let us know your needs. Write

THE SPONGE RUBBER PRODUCTS COMPANY
43 Derby Place, Shelton, Conn.

ANOTHER SPONGEX PRODUCT

Editorial

Quality is the Corner Stone

The need for utmost vigilance in improving and maintaining quality in the food business was emphasized at the recent National Canners Convention by J. B. Weix, of Oconomowoc Canning Co., who stated: "It's an accepted fact that today Mrs. Housewife demands ready-cooked food of truly fresh quality that can be served in appetizing dishes in a short period of time. Women want to spend less time in the kitchen, especially the 10 million that return home daily from outside jobs.

"The challenge before us is to bring our finest quality foods into the home. And if we do, we will be invited back again and again. We must show the housewife that we are pledged to pack for her the highest quality foods under the most sanitary conditions possible. The cannery of tomorrow is going to be a show place, and those who open their gates to public inspection will receive consumer preference from those who see their operations. Your visitors will be a part of your sales force."

Commenting on a complaint on the quality of oysters from a midwest consumer, the editor of a large newspaper said: "The oyster industry has done a splendid job in persuading Midwesterners that these bivalves make delicious eating. But if it wishes to continue the education, it must work overtime to see that only the finest, freshest of all oysters are sent out here." Referring to this in a recent bulletin of the Oyster Institute, Director David H. Wallace stated: "We must keep up quality if we wish to retain the markets we have gained. Re-check the quality of the product you are producing. Is the consumer getting a good value for the dollar? It is essential that she does if the industry is going to hold its customers."

"Quality Starts on the Boat" is the title of a report recently issued by the Shrimp Association of the Americas, which states: "Two determining factors regulating the final quality of shrimp are the length of time the shrimp are dragged in the net, and likewise the length of time the shrimp remain in the warm Gulf water. According to Dr. C. P. Idyll, of the Marine Laboratory of the University of Miami, spoilage of shrimp is caused by autolysis (self-digestion) and by bacterial action.

"It is estimated that bacteria can double their numbers every 20 minutes. Bacteria found in seafood increase their activity enormously with a very small increase in temperature."

Dr. Daniel P. Norman, director of research, New England Spectrochemical Laboratories, discussed factors involved in fish quality at a recent meeting of the New England Fisheries Technologists. He pointed out the desirability of developing objective standards which might serve to prevent the possible imposition of unrealistic standards at some future time by regulatory agencies.

As a preliminary step to a consideration of an improvement in quality standards and inspection of fish generally, the Department of Fisheries of Canada is commencing a survey of plants now producing fish for interprovincial or international trade.

In asking for the cooperation of the industry, the Deputy Fisheries Minister said: "The establishing and maintaining of high standards of quality in Canadian fish and fish products, sold on domestic and export markets, has been a difficult problem for government and industry for many years. In general, the problem should be considered in respect of both the quality of the product, and the conditions under which it was produced and packed."

It is evident from the preceding observations that increased attention is being focused on quality control in the fishing industry. This is a healthy development, since the importance of quality in the fisheries cannot be overestimated. Because of the perishable nature of fish and shellfish, quality must be the watchword of the industry every step of the way from sea to table. It is the corner stone upon which the success of the business must be built.

ATLANTIC FISHERMAN

REGISTERED U. S. PATENT OFFICE

Serving the Commercial Fishing Industry on Atlantic Coast, Gulf of Mexico, Great Lakes

VOL. XXXV MARCH 1954 NO. 2

SPECIAL FEATURES

NEWS REPORTS

REGULAR DEPARTMENTS

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GM DIESEL
CASE HISTORY No. 34-036

BOAT AND OWNER: 36-foot Troller "ROSE M" owned by Captain Unno W. Uunila of Astoria, Oregon

INSTALLATION: GM 4-51 Diesel replaced 142-H.P. gasoline engine, swings 30" x 22" screw through 3½:1 reduction.

PERFORMANCE: Captain Uunila reports his fuel cost has dropped 60% since he switched from gasoline to GM Diesel power. He says, "My GM Diesel gives me steadier trolling speed, greater dependability and lower operating costs."

GM
GENERAL MOTORS
DIESEL POWER

Steadier Trolling—60% Less Fuel Cost

SINCE HE SWITCHED FROM GASOLINE TO GM DIESEL POWER

When working off Astoria, the "ROSE M" trolls at 500 r.p.m. for 14 hours at a stretch; to fishing grounds and return takes 2 to 4 hours at 2200 r.p.m. In 800 hours' operation the 4-51 valveless General Motors Diesel used only 1097 gallons of fuel oil, or 1.37 gallons an hour.

Captain Uunila, with 21 years' experience in 17 fishing boats, says, "This new GM 4-51 Diesel is *the* small fishing boat engine of today and the future."

This compact "free-breathing" 2-cycle valveless Diesel not only gives Captain Uunila steadier trolling but equal or better cruising speeds than his previous higher-rated gasoline engine. Its simpler design means fewer moving parts—longer life—lower maintenance costs. It is rated 87 s.h.p. at 3000 r.p.m. (54 continuous *working* s.h.p. at 2200) and takes up little more room than gasoline engines of equal performance. It gives small fishing boats Diesel safety and *will pay for itself in fuel savings alone.*

See your nearby GM Diesel distributor for full details on the new GM "51"—the small Diesel for small fishing boats. For larger boats, ask him about the "71" or "110" GM Marine Diesels. Regardless of the size of your catch, they'll increase your "net" profits.

DETROIT DIESEL ENGINE DIVISION
GENERAL MOTORS • DETROIT 28, MICHIGAN
Single Engines . . . 16 to 300 H.P. Multiple Units . . . Up to 840 H.P

San Pedro Tugs SLASH Lay-up time and expense

Formerly had to replace water pumps every 2 months... NOW None At All

Do you have salt water problems like the San Pedro Tug Co.? They had to replace all 4 water pumps on the average of every two months in each of their 4-engine diesel tugs. You, too, would immediately install AQUA-CLEAR Feeders on your entire fleet—when after 6 months of use every pump was like new, as tight as when first installed. That's $1000 saved every year, on each tug!

The AQUA-CLEAR Feeder completely eliminates the need for expensive, complicated fresh water cooling; many owners of engines with closed cooling have also found it to be a good investment.

SAN PEDRO TUG BOAT COMPANY

NEW STACK TUGS

San Pedro California

oratory
Avenue
S, California

On July 1st. we installed one of your Aqua Clear Feeders on the tugboat "Ajax" which is powered with four [redacted] Diesel Engines. The engines are fresh water cooled with a heat exchanger on the salt water side.

These engines operate at a high temperature and as a consequence, the precipitated salt, resulting from this high temperature, made it impossible for the salt water pumps to hold their seals for any length of time. We were unable to get more than two months service out of a pump, and since there were four pumps involved, we were always replacing them.

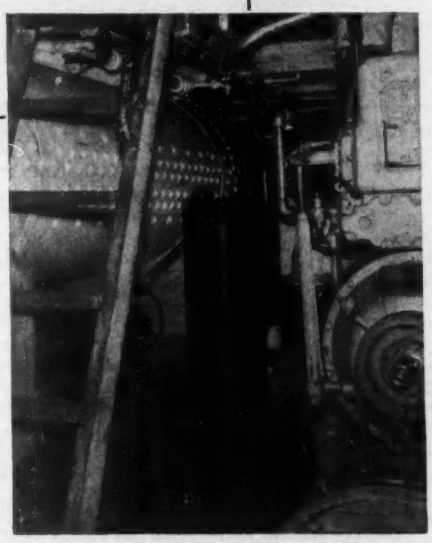
Last week the pumps were carefully inspected after being in operation for five and one half months, or 1004 hours. The seals were found to be perfect and as tight as when the pumps were first installed. There was absolutely no leakage.

We were greatly surprised too, at the economy of operation, for in the 1004 hours, less than five pounds of Crystals were used.

We are very well pleased with the excellent results secured with the Aqua Clear Feeder and we will similarly equip two more of our tugs at once.

Very truly yours,
SAN PEDRO TUGBOAT COMPANY
By Wm. McGillivray
Wm. McGillivray, Manager

After such surprising results on the Ajax pictured above, as reported in this letter, no wonder the San Pedro Tug Co. has made similar installations on more of its tugs.



This picture in the engine room on the Tug Ajax shows how simply Aqua-Clear Feeders are installed to protect any diesel from the ravages of salt water.

Throw Your Heat Exchanger Troubles Overboard

At last salt water has met its master! For far too long boat owners, naval architects and engine manufacturers have been saddled with the terrific expense of developing and maintaining complicated fresh water cooling because it was believed there was no safe way to cool direct with salt water. The AQUA-CLEAR Feeder has changed all this—it is so simple we should have discovered it years ago! It takes all the bite out of sea water—positively protects all metals in the cooling system from rust, corrosion and electrolysis. It coats the metal with an invisible, microscopic, watertight film so water cannot touch it—actually improves heat transfer. Cylinder heads, manifolds, water jackets, liners, etc., just cannot salt down or corrode.

Saves Replacing Liners

Tug boat owners have reported they have had to replace a liner as often as every 2 months, even operating at temperatures as low as 110°. After installing the AQUA-CLEAR Feeder a tug owner recently reported being able to raise operating temperatures to 160° without salting down, and has not had to replace any liners at all in over 9 months of constant use.

Saves Thousands of Dollars Installation Cost and Expensive Lay-Up Time and Repairs

Avoid all the extra expense, space and complicated piping needed for closed cooling. No cumbersome heat exchangers or exposed keel coolers, no expansion tanks, no extra holes through the hull. Made for all kinds and sizes of marine engines. Costs only $128.75 for 1½-in. pump inlet; larger and smaller sizes in proportion. Stop losses you can avoid with the AQUA-CLEAR Feeder! Write for more information today—use coupon below.

SUDBURY LABORATORY, Box 405, South Sudbury, Mass.

Sold and Installed by Leading Boatyards

AQUA-CLEAR Feeders
Protect Cooling Systems from Rust and Corrosion

Dealers: Write for Special Offer.

OVER 20,000 NOW IN USE!

SUDBURY LABORATORY, Box 405, South Sudbury, Mass.

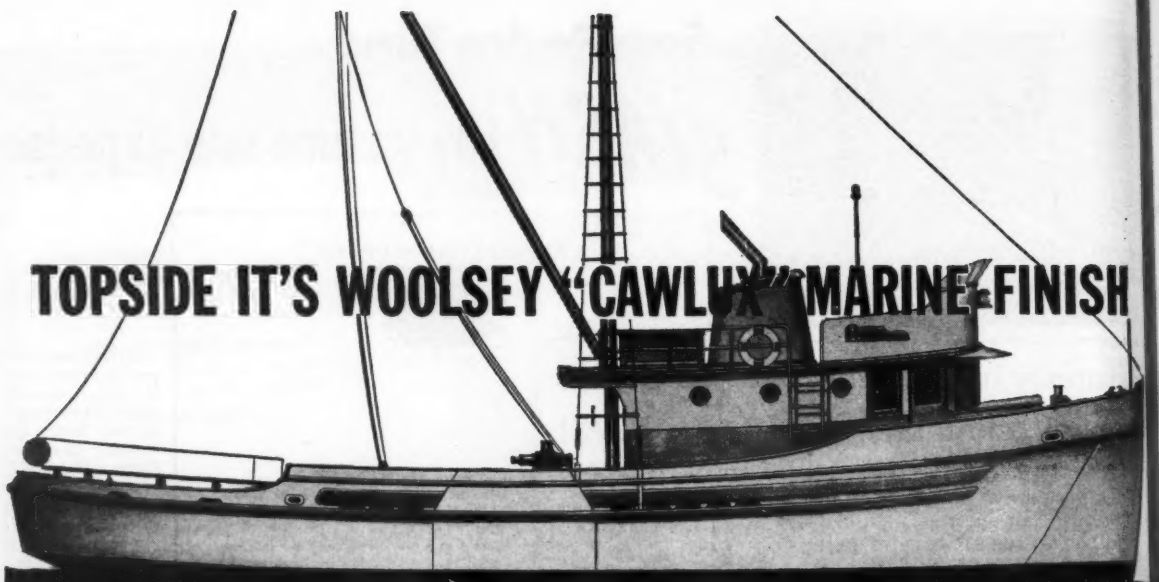
Send me complete information on AQUA-CLEAR Feeders to protect Diesel and Gasoline Engines from rust, corrosion and electrolysis—also eliminate rust in water pipes, tanks, heat exchangers, air conditioning units, etc.

FREE

Name.....

Address.....

City.....Zone....State.....



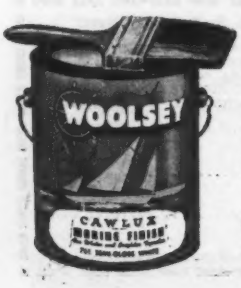
TOPSIDE IT'S WOOLSEY "CAWLUX" MARINE FINISH

ON THE BOTTOM IT'S "TRADEWINDS" ANTI-FOULING

DON'T BE PENNY-WISE AND DOLLAR-FOOLISH

***Reduce** High Cost Haul-Outs and **Increase** Your Profitable Hours Afloat by Using Higher Quality, Longer Lasting Woolsey Marine Paints on Your Boat*

"CAWLUX" FACTS—"Cawlux" Marine Finish withstands continued exposure to salt, hot sun, scrubbing, hard wear...every punishment a fishing boat must undergo...far better than ordinary paints. This is because "Cawlux" is made with a special alkyd binder that "imprisons" and protects the world's finest pigments in a tough, impermeable, flexible film. Yet "Cawlux" costs but slightly more per gallon! On the hull, trim, decks, cabin, spars, and other topside surfaces, "Cawlux" looks far better far longer than the average marine paint. "Cawlux" Whites come in Gloss, Semi-Gloss and Semi-Flat. Also available in a wide range of sea-tested colors. *It's false economy to use anything less than the best.* Try Woolsey "Cawlux" this season...and you'll agree!



"TRADEWINDS" FACTS—This highly toxic anti-fouling paint provides *season-long* freedom from barnacles, borers, grass and other attachments! For wood or steel bottoms, "Tradewinds" gives a smooth, tough finish in either Rich Red or Brilliant Green. May be applied over new wood or old paint in good condition, recoated in 3 hours, launched after 4 hours.

Serving at Sea Since 1853

WOOLSEY

MARINE PAINTS

C. A. WOOLSEY PAINT & COLOR CO. INC. • 229 E. 42nd St., New York 17

Warehouses: Brooklyn, N.Y. • Plymouth, N. C. • Jacksonville, Fla. • Houston, Texas

Sounding-Lead

License fees for fishing gear, as proposed by Army Corps of Engineers, would apply only in cases where permits have been required in the past, according to a recent notice of explanation by the Army Engineers. The statement reads:

"In connection with the Public Notice issued by this department on February 3, 1954, concerning the proposed schedule of fees to be collected for Department of the Army navigation permits, the following is a clarification of a misinterpretation that has arisen concerning the proposed schedule of fees to be charged for Group 5, fish traps, and pounds:

"The proposed schedule of fees for this group has apparently been misinterpreted by some parties as meaning that a $25.00 fee would be charged for each gill net and a $50.00 fee for each fish trap or pound. The actual intent of the proposed schedule is that the specified fees would be charged only for each permit issued, regardless of the number of gill nets, traps, or pounds that might be authorized by the permit. In cases where fishing areas have been established, within which Department of the Army permits are not required for gill nets, traps, or pounds, it is not proposed to collect any fee for such structures. Also, other types of net fishing, such as with drag nets or purse seines, do not require Department of the Army permits and therefore are not affected by the proposed schedule of fees."

The following excerpt from a letter to Congressman Thor Tollefson, acting chairman, House Committee on Merchant Marine & Fisheries, sheds some additional light on the subject:

"The proposed fees are intended to recover the administrative costs of issuing permits and have been based on reported costs from our field offices. When a permit is issued, a single fee, determined from the proposed table as it may finally be approved and issued, will be assessed. There will be no recurring fee since the original permit for a structure, such as a pier, carries with it the authority to keep the structure in proper repair. In waters where fishing areas have been established within which permits for fishing structures are not required, or when there is no structure placed in the waterway and no permit is required, no fee would be levied under the proposed schedule."

Removal of seafood exemptions from Fair Labor Standards Act is one aim of bill filed by Senator James E. Murray of Montana. On agricultural and seafood industries, Senator Murray had following to say:

"The present law contains a maze of partial and complete exemptions for various types of agricultural and seafood processing. These exemptions were written into the law through the influence of the special interest groups who have benefited by them. They should be swept away so that workers in these industries, including the seasonal employees, would be given the protection of the law: 13 (a) (10), agricultural processing industries; 13 (a) (5) seafood and fishing industries; 13 (a) (15) forestry and logging operations; 13 (b) (4) canning of fish; 7 (c) processing of agricultural and seafood products; 7 (b) (3) seasonal exemption."

The statutory minimum wage would be increased from 75¢ to $1.25 an hour under Murray's bill, and maximum work week would be decreased from 40 to 37½ hours during first two years and after that to 35 hours.

Output of fishery products and by-products in United States and Alaska last year was marked by ups and downs, according to Fish and Wildlife Service. Declines occurred in production of canned salmon, canned Maine sardines, canned Pacific and Jack mackerel and frozen products, while there were gains in output of canned tuna, canned shrimp, canned anchovies, fish meal, and fish oils.

Total pack of canned fishery products for human consumption was about 10 per cent less than 647,000,000 lbs. packed in 1952. Approximately 2,000,000 cases of sardines were packed in Maine, as compared with 3,531,000 cases in previous year. Production of canned shrimp showed an increase of about 10 per cent over 1952 pack of 818,000 cases.

Output of frozen fishery products totaled about 275,000,000 lbs., as compared with 313,000,000 lbs. in 1952.

Production of increasingly important fish meal came to about 241,000 tons, as compared with 221,400 tons in 1952. The 1953 figure is believed to represent an all-time record.

Yield of fish oils amounted to about 20,500,000 gallons, or more than 4,000,000 gallons above previous year's yield.

German firm wants to land fish caught on Grand Banks off Newfoundland at United States ports. This concern has posed question of whether vessels operated by foreign company—but chartered by U. S. organization and flying American flag—can legally land their catch at U. S. ports.

U. S. regulations now prohibit such landings by foreign ships, and Washington sources believe it unlikely that the request will be granted. The German company is 51% owned by American and British interests, according to its president.

Tariff-rate quota for calendar year 1954 on imports of cod, haddock, hake, pollock, cusk and ocean perch (rosefish) amounts to 33,950,386 lbs. This is very close to amount authorized to be imported for consumption during calendar year 1953 at reduced rate of duty, which was 33,866,287 lbs.

Three experts representing U. S. Tariff Commission have visited New England fishing ports recently to gather information on fishing industry. They will report their findings to Tariff Commission to be used in coming to conclusions regarding New England appeal for relief from foreign imports of fish fillets.

Tariff Commission men examined data on fishermen's earnings, fishing vessel activity and criteria related to groundfish (including ocean perch) fillet escape clause action. In addition, they secured information on breaded pre-cooked fish sticks. They urged more boat operators and processing firms to fill in and return questionnaires which were sent out by Tariff Commission to ascertain facts about industry.

Total 1953 imports of groundfish fillets, including ocean perch, amounted to 91,374,080 lbs.—15 per cent less than poundage received during 1952. Imports of fillets from Canada were greater than in previous year; however, sharp declines occurred in receipts from Norway, Denmark, Iceland, United Kingdom, and Netherlands.

Research and market promotion, as proposed in Saltonstall-Kennedy bill, is being backed by New England fishing interests. Group met recently in Boston, Mass. to unite in support of this legislation, which proposes to divert some $4,000,000 in foreign fish duties to help fishing industry. New England group intends to seek $1,000,000 for use in their area.

Representatives of fishing interests chose Thomas Fulham of Boston as chairman of New England committee which will attend public hearings on the bill in Washington, D. C. No hearing date has been set.

New England committee plans to propose following program as needs for its area: 1. Biological and oceanographic research; 2. Fiscal program to keep records of the industry; 3. Exploration of fishing and gear development; 4. Technological studies to include better methods of preserving, processing, distribution, and marketing of fish and fisheries products; 5. New uses in the development of various species of fish and fish waste; and 6. Education in marketing development.

PINELLAS has a good day's catch . . . thanks to nets made from NYLOCK*

"thoroughly convinced that nets made from NYLOCK will outlast...absorb less water...far superior"

These statements, taken from Mr. Kenney's letter shown above, are typical of the comments made by hundreds of fishermen who use nets made from NYLOCK Nylon Twine.

These same fishermen also tell us that nets made from NYLOCK catch more fish, reduce knot slippage to a minimum, require no drying — no preservatives, are easier to handle and do not fray or fuzz.

Why not convince yourself that nets made from NYLOCK will *increase your catch and lower your costs.*

For full information, write or phone one of the following manufacturers who make nets of Nylock Nylon Twine:

*ADAMS NET & TWINE DIVISION, 701 N. 2nd St., St. Louis, Mo.
*EDERER DIVISION, 540 Orleans St., Chicago, Ill.
*PAUL'S FISH NET DIVISION, 357 W. Ohio St., Chicago, Ill.
**Divisions of The Linen Thread Co., Inc., 418 Grand St., Paterson, N.J.*

THE FISH NET & TWINE CO., 310 Bergen Ave., Jersey City, N. J.
HOPE FISH NETTING MILLS, INC., Hope, Rhode Island
JOSEPH F. SHEA, INC., Successor John S. Brooks, East Haddam, Conn.
A. M. STARR NET CO., East Hampton, Connecticut
THE CARRON NET CO., 1623 17th Street, Two Rivers, Wisc.

NYLOCK® TWINE

NYLOCK NYLON TWINE PRODUCED BY:

The HEMINWAY & BARTLETT Mfg. Co.

500 FIFTH AVENUE, NEW YORK 36, N. Y.

FOREIGN AGENT: Turner, Halsey Co., Inc., 40 Worth Street, New York, N.Y.

Me? Ride to work on wire rope?

That's right. In the course of a year this young lady may travel as much as 150 miles with the aid of wire rope that safely and swiftly whisks her elevator aloft and then just as safely returns it to ground level. It's quite likely that she gets to her job with an assist from Wickwire Rope. Here again—as in so many other fields where wire rope is used—men who manage and maintain the nation's tall buildings have learned to place unbounded faith in the safety and reliability they get from Wickwire Rope.

A YELLOW TRIANGLE ON THE REEL IDENTIFIES WICKWIRE ROPE

THE COLORADO FUEL AND IRON CORPORATION—Abilene (Tex.) • Denver
Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
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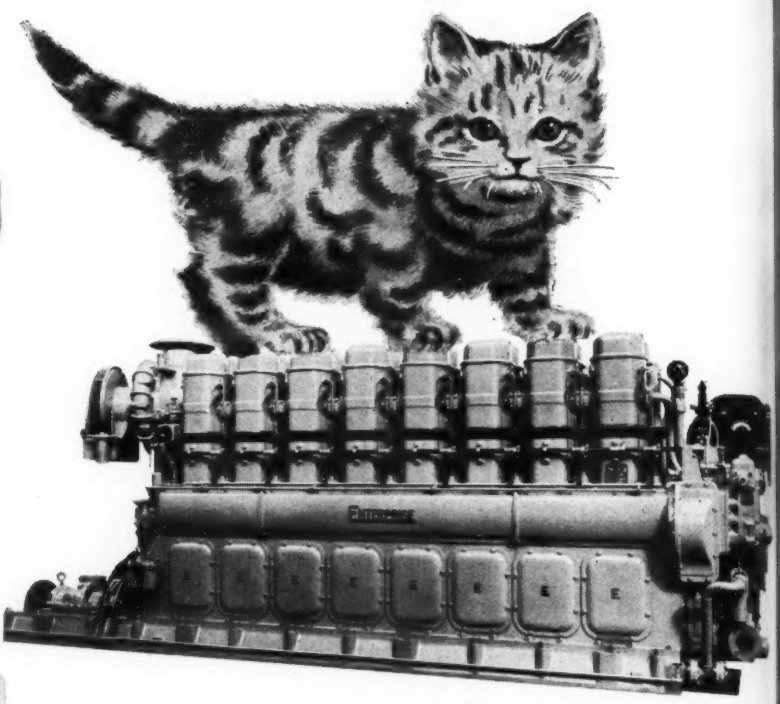

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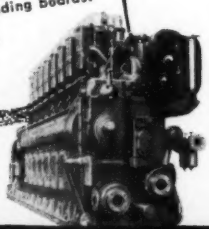

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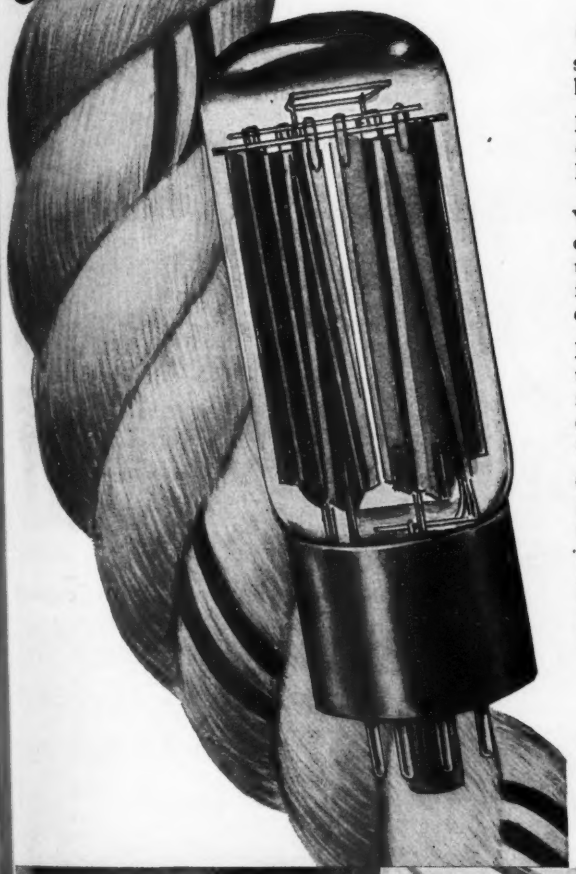

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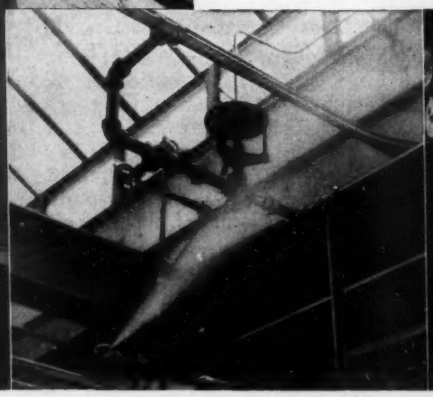
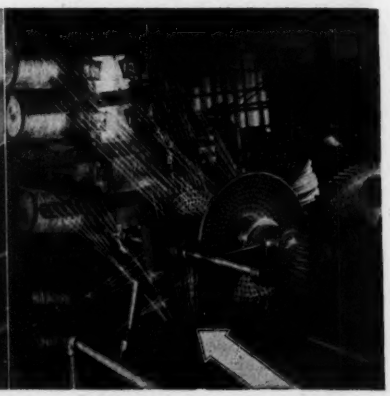


Unretouched photo showing jets of water vapor being shot into the air at the K-ting factory. Rope fiber should be constantly humidified to prevent loss of strength and durability.



Center Strand Lubricated. Arrow points to the center strands of K-ting Rope passing through a special oil bath. This extra treatment helps to make K-ting Rope stay strong longer.

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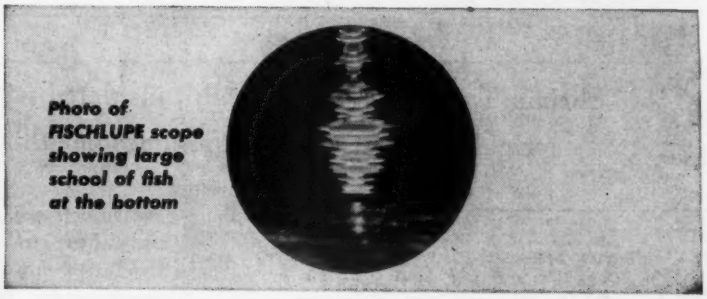

Photo of FISCHLUPE scope showing large school of fish at the bottom

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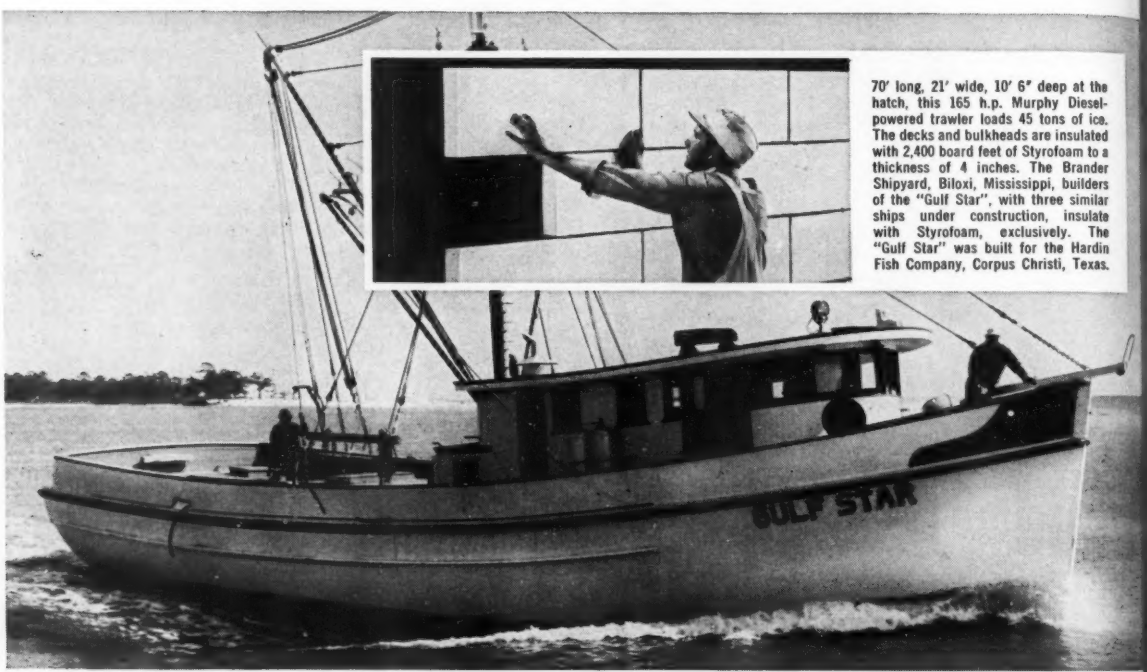

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Practical Considerations in Fishing Boat Design

Construction, powering and hull-design of small fishing craft analyzed by Naval Architect Howard I. Chapelle*

SMALL craft, under 45 ft. in length, represent the largest part of the fishing fleets of Canada and the United States. The cost of these boats is the largest single investment of the fishing industries in floating equipment. Many fisheries are carried on entirely with small launches. Yet, in spite of the economic and industrial importance of the fishing launches, there has been little technical information published concerning their hull-design, construction and powering practices.

Technically, the small fishing launch is an interesting subject for study of the effects of economic factors on commercial boat design. This class of launch has usually been developed by trial and error to meet the requirements—physical, economic and regional—of their use. In spite of the lack of attention to fishing launches by naval architects, it would be erroneous to assume the boats to be inefficient and poorly designed, as a whole. On the contrary, the requirements of use and of local economics are so rigid that boats must be efficient to survive, as a type, and so do represent a very high level of design in most instances.

This is not to say that they cannot be improved, of course, but the foregoing does indicate that any improvement will have to be predicated upon a thorough understanding of the type under consideration. This must extend beyond the mere examination of a type of boat; there must also be a working knowledge of the economic and physical factors affecting the construction and employment of the craft.

The introduction of a larger, faster and more highly mechanized boat into a fishery will not constitute improvement unless the new model can produce greater annual income and more financial security to the owner, or increase his personal safety. Far too often in the past, the attempts to improve the model of some local fishing boat have resulted only in an increase in the costs of building, equipping, operating and maintaining the boat which its commercial operation could not support over the years.

The purpose here is to examine a few selected types of North American fishing launches with the view of showing just what natural evolution has produced to meet certain operating conditions. It will be possible in some instances to suggest where improvement is necessary, or at least desirable. In other cases, no improvement is indicated and the practical elements of a type need only be pointed out.

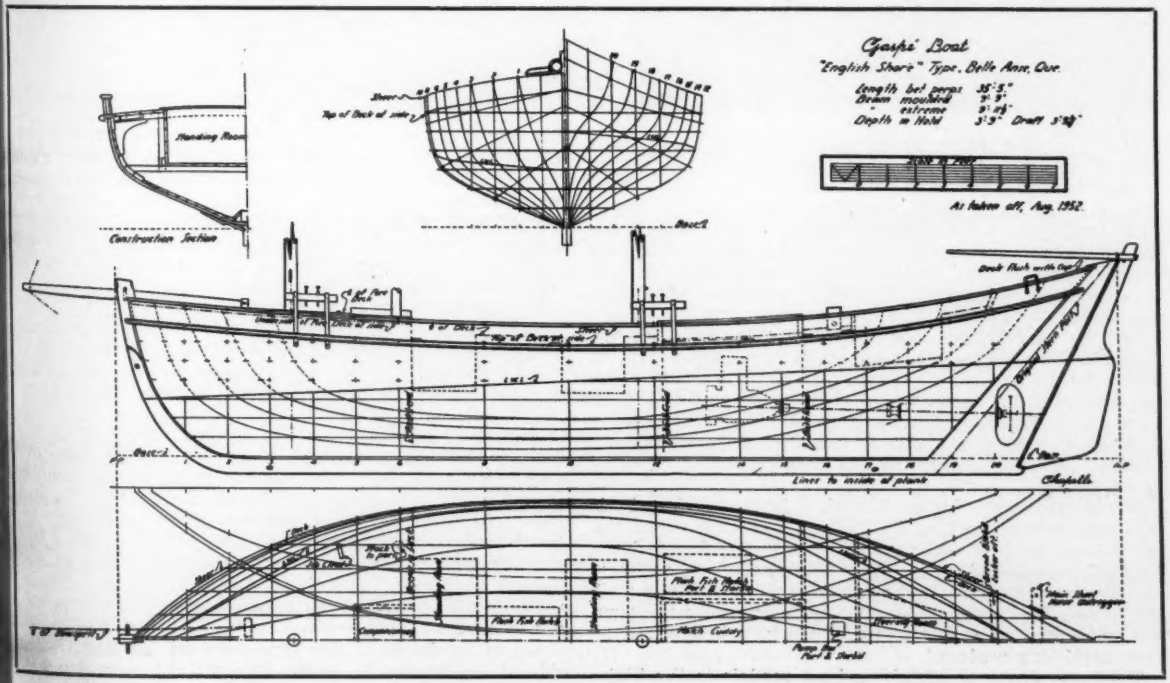
It is usual, in a discussion of fishing boat design, to stress the possible improvement in engineering or design efficiency, rather than the actual operational and economic side of the matter. This seems to be a rather questionable approach in the field of small fishing launches; the endeavor of a fisherman-owner of a launch is not to obtain maximum efficiency in his boat and motor, but rather maximum income in proportion to his investment.

Great Range in Hull-forms

Small fishing launches do not lend themselves to the usual mode of academic analysis by mathematical comparisons. There is a very great range in the hull-forms, proportions and, in fact, all elements, between the very numerous types of boats as well as in a single type. This makes the mathematical analysis extremely laborious in so unexplored a field. The lack of accurate plans creates an almost insurmountable difficulty in such an analysis and the examination of even two or three examples of each highly divergent model by such a precise method would only be misleading.

(Continued on next page)

* This is the first of a series of articles on design of small fishing boats by Naval Architect Chapelle of Cambridge, Md. It was abstracted from a paper presented at the recent FAO International Fishing Boat Congress at Miami, Fla.



Plans of the Gaspe boat, used by fishermen of the Gaspe Peninsula, Quebec, Canada.

(Continued from previous page)

Practically, there is no real advantage in such a discussion, for the material would be of little value to any designer undertaking the preparation of plans of one of these launches. The cost of the individual boat is comparatively low and therefore it cannot bear a large designer's fee.

Much might be said about the lack of science in small boat design; indeed, a good deal has been published on this matter in the past. Much of what has been said is pointless for various reasons. For instance, there are at present almost no "standard models" for a basis of comparison; the standards used in large vessel design do not apply to small power craft used in the North American fisheries simply because the prismatic coefficient of small craft is commonly below the lower limits used in large vessels.

Model-testing and the accumulation of the necessary data is far too costly to be undertaken by any individual and there is, at present, no organization or governmental body in North America with the necessary funds, or the necessary information on the models that ought to be tested, to undertake the investigations on an effective scale. The small naval craft that have been tested in model basins are not of the proper hull-forms nor of the weight-power-speed ratios suitable for small fishing and commercial craft, so the available information from this source is of very little value. It must be stated that the future presentation of the results of model-testing, or of modes of calculation based upon scientific investigation, must be in compact, simple form to be of real value because of the economic limitations imposed upon the small boat designer.

The result of these economic limitations is that there is much use of simple approximations and "shortcuts" in what calculating is done and this is of the extreme minimum in most instances. Experience suggests, in fact, that a great deal of the standard practices recommended in theoretical and academic naval architecture are of very doubtful value in small craft design, aside from the economic factors just mentioned. The margin between successful design and failure is apparently much narrower in small boats than in large vessels, so that slight departures in weight and trim become of great importance in a small boat.

Mode of Construction Important

The matter of employing the most desirable mode of construction is very important in small wooden boats, for construction is inextricably bound up in the hull-form to a degree not usually recognized. This is a matter to be noted later.

It is a proper question to inquire why the emphasis is placed upon wooden craft in this discussion. The reason is that there is as yet very little steel construction of small fishing launches in North America. There is little likelihood that there will be in the near future for, while there are facilities for construction of steel craft all along the coasts, these are not suitable nor intended for the construction and necessary maintenance of small craft but, rather are for large vessels.

On the other hand, there are ample facilities for the construction and maintenance of small wooden craft in every fishing area. Furthermore, in many localities, the fisheries will not support a local boatyard and so fishermen commonly build their own boats. Therefore, a discussion of fishing launches in North America must be limited by cold reality to the necessities of wooden construction.

North American fishing launches have developed almost entirely from two distinct sources. One was the older local type of sailing fishing boat which has been adapted, or altered in more or less degree, to make it suitable for motor propulsion. Such craft are usually well suited to local conditions and are as safe as is necessary, but some are not as fast as fishermen now desire and so they are being replaced.

The second source of fishing boat models is the high-speed pleasure launch. Boats inspired by this class are often very fast but some are unnecessarily expensive and even unsafe in heavy weather. Yet, because of the attraction of the high speed possible in such boats with available automobile motors installed, the fishing launches copied from pleasure craft are gaining in number all along the coasts. The writer is convinced that this is a wholly undesirable trend, both from the economic point of view and from the standpoint of safety and, in the process of this discussion, will endeavor to point out why he believes this.

The Gaspé Boat

An example of a powered fishing boat developed entirely by slight modifications in an older sailing model is shown in the accompanying plan of a Gaspé boat. This craft is used on the northern tip of the Gaspé Peninsula, Quebec, Canada, at the mouth of the St. Lawrence River. This particular example comes from the stretch of coast between Percé and the town of Gaspé; the so-called English Shore.

The popular size is shown around 35 ft. length and between 9 and 10 ft. beam with a draft of about 3½ ft. The hulls are roughly built, without any attempt at a smooth and attractive finish, but the construction is sufficiently strong and lasting to meet local needs. The planking is either lapstrake (clench) or caravel; the former seems to be the most popular.

The boats carry a simple schooner rig—jib, loose-footed foresail and boomed mainsail of the gaff type—and are powered with a 1 or 2 cyl. heavy duty gasoline engine of the makes manufactured in Nova Scotia. Most of these have make-and-break ignition and are manually started. The engines give the boats a speed of about 6 to 8 statute miles per hour (7 knots). These boats do not usually range far to sea and stay out for 2 or 3 days only as a rule. They are very seaworthy for their length and have a record of safety in this area of coast subject to severe gales.

Boats Hauled up on Beaches in Storms

Most of the boats work out of coves or small harbors that are not wholly protected, and therefore must be hauled up on the beaches when violent gales or ice are foreseen. For this the boats are well designed. The usual process is to discharge the stone ballast carried and then to haul the boat up on a grid made of two long spruce logs laid at right angles to the shore, over which spruce poles closely spaced are spiked, or pinned with wooden treenails. The boats are hauled up by passing an iron bolt through the hole, bow or stern, in the keel; a hauling line being secured to the ends of the bolt or pin.

Nowadays a truck is often used to furnish the power required to pull the boat up on the grid, but in some places the old capstan or crab is still in use. No cradle or other support is used and the operation is very rapid. Even in some of the fishing ports where the government has furnished breakwaters, the spruce-pole hauling grids are to be seen in use. These are employed not only in protecting the boats in ice and gale conditions but also in everyday maintenance, for marine railways are not required with this class of boat.

The somewhat similar boats used by the French Canadian fishermen on the Bay Chaleur side of the Gaspé Peninsula have more rake to the ends and their midsections show some hollow at the garboards combined with a rather low and hard bilge; the topsides flare a good deal.

In this area the boats range from about 32 to 45 ft. in length. They are somewhat more roughly built than represented in the accompanying plan, but are equally strong and lasting. Construction is largely of spruce, birch and larch, iron fastening being employed. The boats in this area are now working out of harbors fitted with breakwaters and are not now hauled out as often as beyond Percé. The sails used are extremely crude and many boats use only the jib and mainsail during most of the season.

All of the boats of this type seen on the Bay Chaleur side of the Peninsula, in the Fall of 1952, were lapstrake

(Continued on page 34)

Alewife Netting Operations on Connecticut River

Two of the Kowalski brothers pay out their 600' net as they set out across the Connecticut River for a haul of alewives, or river herring. The fish travel in huge schools.

Each Spring the alewife, or river herring, leaves its ocean haunts to spawn in the Connecticut River. During its short sojourn in this stream, the alewife supports one of the River's principal fisheries.

The alewife is a cousin to the shad, both being in the herring family. It averages 10" in length and travels in huge schools. Many persons enjoy eating fresh alewives fried in butter.

Pickled herring is a familiar form of tasty fish, and surprisingly enough, alewives are commercially netted for this purpose on many "reaches" of the Connecticut River. Upwards of a million pounds are taken each year and processed near the scene.

The accompanying illustrations show a family fishing enterprise on a section of the River near Glastonbury, Conn. The Kowalski family had been making two hauls per hour since 4 A.M. this particular day, working for over 12 hours. Truckload after truckload of alewives had been hauled to the processing plant.

Once the haul line has brought the river end of the seine to shore, the Kowalskis (father, left, and four sons) work the fish down to the opposite end by slapping the cork line on the water.

Left: the Kowalski brothers force the netted fish into a "pocket". Center: over one ton of alewives in the "pocket". Right: one brother scoops about a bushel at a time into a scow used to hold the fish between hauls. Brother in scow "weeds out" any other kind of fish netted. In this haul were a few shad, pickerel, carp and perch. It is not unusual to find sturgeon, catfish and many other species.

A few "gilled" fish are cleared from the net preparatory to resetting (left). Fish being dumped into truck by a power-driven loader (center). Douglas Moss (right), biologist for the Connecticut Fish and Game Dept., checks a shad that came in the same haul with the alewives to determine whether there are any ailments peculiar to marine life. Waiting to dress the shad is George C. Hall of Glastonbury, Conn.

Effect of Climatic Changes on Fish Stocks

Dr. L. A. Walford reveals that trend toward warmer weather in North Atlantic has caused changes in distribution of fish*

MANY fishermen are concerned about the condition of the fishery stocks, several of which seem to have receded to a low ebb of abundance in recent years. They are asking what has happened to pink salmon, to Alaska herring, to Maine sardines, to the Pacific sardine, to the Gulf of Mexico shrimp. Are there fewer of them in the sea? Or have they perhaps retreated to distant, more obscure areas and become less accessible to fishermen? Whatever the nature of the condition may be, is it permanent?

It is not only Americans who are concerned with these questions. So are people in other parts of the earth, for comparable conditions have occurred elsewhere, not only in California, Maine and Alaska, but also in such distant and widely separated places as Japan, India, Spain, and North Africa.

Is this all the result of mere coincidence, or could any important part of this effect have sprung from some common cause impelled by such a cosmic influence as weather, for example, which might affect these diverse species in a similar way? Are all these recent and current seemingly peculiar conditions within the range of normal variation? That last question is most important, because the seriousness of the present conditions can be judged only in comparison with some standard; and that standard, which we call the Normal, cannot be simply defined.

In its popular connotation, Normal is the good state of affairs, the good life. In the language of the statistician, it is something quite different—not nearly so cheerful a word, but very much more exact. It is simply the average, the sum of all the items divided by the number of items—the lean years and the fat.

Early History of Fishes Unknown

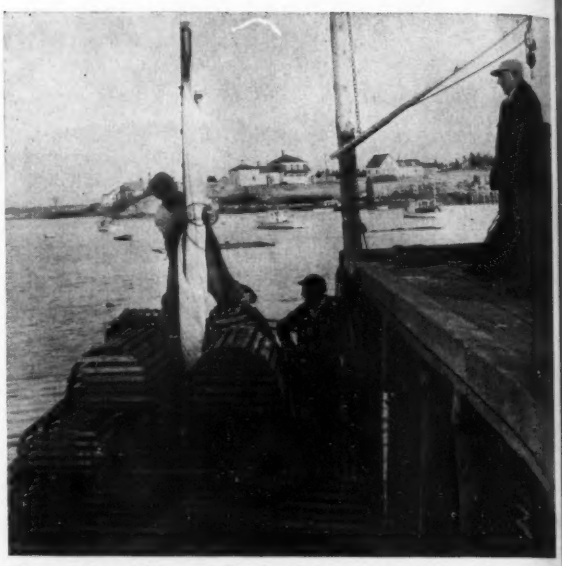
Exact information about the history of fishes and invertebrate animals that are commercially useful for canning is limited to relatively few recent years when they have lived under the pressures of intense fisheries. We know nothing about their fortunes under virgin conditions. In those days, did they go through alternating periods of abundance interspersed with periods of contrasting scarcity? What was their normal life then? We cannot tell.

A great part of what we can learn now we must deduce from the catches of fishermen. Thus, in searching for normal patterns about the complex lives of fishes in order to understand the significance of events in a single year like the last, we must take into account patterns in the complex affairs of men.

The behavior of fishermen fluctuates in response to economic conditions; and for that reason as well as others the intensity of fishing rarely remains constant long. Fishing techniques improve, fishing fleets increase in size; markets change, etc. And because recorded history about these aspects of the fisheries is usually fragmentary, it is difficult to draw absolutely certain conclusions about normal conditions of fish or of fisheries. This much, however, seems clear: conditions rarely have been "normal".

Fishery harvests are characteristically unstable, subject to irregular oscillations. This is illustrated in graphic records of 150 years of Atlantic mackerel fishing, 50 years of American cod fishing, and 37 years of Pacific sardine fishing.

*Extracted from a paper delivered at the recent convention of the National Canners Association in Atlantic City, N. J. Dr. Walford is chief of the Branch of Fishery Biology, Fish & Wildlife Service.



Corea, Maine lobsterman Roy Scofield, Jr. ties up his riding sail to make room for a few more traps as he loads his boat to head way offshore. His partner, Glendon Lowe, looks seaward for a weather survey.

Variations in Yield Noted by Japanese

In 300 years of Japanese fishing for tunny, skipjack, herring, squid and saury, periods of abundance alternate with periods of scarcity. Data are not statistically good enough to demonstrate any periodicity in these waves; nevertheless some Japanese scientists interpret that waves of maximal abundance have occurred about as follows: tunny 60 years apart, skipjack 80 years apart, sardines 100 years apart, and Hokkaido herring 50 years apart.

Part of the fluctuations shown in these records reflects economic conditions, part reflects the degree of accessibility of the fish on fishing grounds, and part—surely a very important part—reflects fluctuating abundance of the fish. Fishery biologists work continually to resolve these influences and have made much progress in that effort.

The biologists have long been in general agreement that fluctuations in environmental conditions cause fluctuations in abundance of the fish; but what elements of the environment are critical and by what mechanisms they affect the survival of fish, are problems that remain largely unsolved. As long as that is true, fishing must continue to be the uncertain occupation it is.

Agricultural science is far ahead of fishery science in understanding the biology of the environment and making use of that understanding. But then, of course, the problems of agriculture, difficult though they may be, are very much simpler than those of fisheries. For the farmer has the enormous advantage over the fishery man of being able to perceive his produce as it develops; and there are various things he can do to protect it when a period of unfavorable weather hits, such as a cold spell or a drought.

Because the farmer can follow the vicissitudes of his produce with his eyes, he is constantly aware of what is

(Continued on page 40)

Minimum Shrimp Size Law in South Carolina Needs Revision

By G. Robert Lunz*

THE rapid expansion of the shrimp industry in South Carolina and other States during the past 20 years has given rise to the fear that some of the fluctuations in the annual catch might be a sign of serious depletion. However, most marine biologists do not feel that the species is in danger of being overfished.

In South Carolina shrimp is the most valuable marine fishery resource. The shrimp season lasts from the end of May until the first part of December, and as many as 600 trawlers have been licensed to operate in South Carolina waters. However, the average number is nearer 400, with about 300 locally owned. The vast majority of the shrimp are taken in the shallow water along the beaches.

Much basic knowledge from a viewpoint of both economics and biology is needed to encourage and continue the South Carolina shrimp business. Management programs not based upon sound knowledge tend to confuse and restrict the industry. The State of South Carolina should have much more information before it can intelligently and completely utilize its shrimp resources.

"55 Count" Regulation

The following is part of a report by the Bears Bluff Laboratories, Wadmalaw Island, S. C., based on studies done on shrimp and the shrimping industry of South Carolina under a special appropriation. This section deals entirely with the "55 Count" minimum size restriction on shrimp.

There are approximately forty odd species of shrimp to be found in South Carolina waters. Of these, four enter the commercial catch—the white shrimp, which is predominant; the brown shrimp; the spotted grooved shrimp and a species sometimes locally called the rock shrimp. Only a few hundred of the latter mentioned variety are sold in the markets since these shrimp never reach a size where it would take only 55 deheaded to make a pound.

Occasional specimens of the other kinds of shrimp found in South Carolina are, from time to time, caught in shrimp trawls. The vast majority of these, when fully grown and mature, are still too small to come up to the pound count. For example, the extremely abundant "hard back" at its maximum size is so small it would take more than a thousand to weigh a pound when deheaded.

Certainly it is not the intent of the law to include unmarketable species of shrimp in the pound count. However, the law is not specific and under a strict literal interpretation of it, a trawlerman who by chance has on deck some of the full grown but small-sized shrimp is guilty of a misdemeanor.

South Carolina is not alone in having a law governing the size of shrimp which can be sold. However, with the exception of Florida, South Carolina legislates a lower count minimum size than any other State.

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Sorting the catch aboard the shrimper "Hornet" which runs out of Charleston, S. C. Owner of the craft is Mt. Pleasant Sea Food Co., Mt. Pleasant, and she is powered with a D315 Caterpillar Diesel.

Shrimp nets aboard the "Miss Norma", owned by Mt. Pleasant Sea Food Co., Mt. Pleasant, S. C., and operating out of Charleston. A Caterpillar Diesel D337 marine engine provides propulsion power for the vessel. The "Peggy Ann" and "Miss Judy", other trawlers owned by the sea food firm, are shown in the background.

Experimental Trawling Operations

The trawl nets customarily used by trawlermen in South Carolina are 2" stretched-mesh measure. This size net will retain shrimp from 2.5" on up. During 1953 the survey crew of Bears Bluff Laboratories made weekly tows at regular fixed stations with a 20' flat trawl net having a mesh size of 2".

From an analysis of over 37,000 shrimp caught in the experimental trawls, it was determined that the 55 count shrimp is just about 5" in length. Thus shrimp sold legally in South Carolina must be more than 5" long, measured from the tip of the rostrum to the tip of the tail spine.

Except during cool weather and after extremely short drags, shrimp landed on a shrimp boat are dead. Under the law all shrimp over 55 count, or under 5", cannot be landed or sold and must be thrown back overboard. Thus all the shrimp taken between 2.5" and 5" are wasted. Regardless of legal restrictions, trawlermen are usually unable to sell shrimp under 4" in size.

Shrimp landing figures for South Carolina are assumed to include only those shrimp over 4" in length; those under 4" having been culled out of the catch at sea. The U. S. Fish & Wildlife Service statistics show that the landings of commercial shrimp in South Carolina for 1950 amounted to 7,746,400 lbs. heads on, or 4,492,912 lbs., heads off. Table I, which follows, gives the amount of shrimp caught (by size) during the various months of 1950, as figured by the Bears Bluff Laboratories on the basis of their experimental trawling operations.

A study of Table I shows the relative volume of shrimp wasted. Thus, since the shrimp under 4" are unmarketable, 589,922 lbs. were wasted. As shrimp between 4" and 5" are marketable by economic law but unmarketable by civil law, 1,994,067 lbs. of shrimp would have been lost by a strict enforcement of the "55 Count" law.

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To lower the minimum size regulation would be in accord with most of the other shrimping States, with the exception of Florida. From the standpoint of fisheries management, retention of South Carolina's "55 Count"

Table I—Pounds of Shrimp Caught in South Carolina in 1950

(By Size Groups and Months)

Month	0-4"	4"-5"	5" and over
May	0	0	193,195
June	27,081	124,826	275,041
July	62,600	172,933	505,496
August	117,028	357,880	280,113
September	159,249	489,828	449,192
October	85,760	413,555	453,577
November	39,965	329,124	214,518
December	98,239	105,921	28,866
Totals	589,922	1,994,067	2,399,998

law might be defensible if shrimp under 5" could be released unharmed or not captured. However, since practically all shrimp landed aboard a trawler from a trawl net are dead when landed, it serves no useful purpose to sort out the illegal size shrimp and dump them overboard dead.

If it is sound fishery management to restrict the size of shrimp to be taken, either some type of gear must be devised to eliminate the undersized shrimp or shrimping must be prohibited in the areas, or during the season, when undersized shrimp are present. As yet insufficient work has been done to designate the selective gear which will eliminate catching of shrimp under 5".

For all practical purposes there are no areas in the normal fishing grounds in South Carolina where shrimp under 5" are not found. It is true that shrimp of one size group often tend to congregate and remain separate from shrimp of another size group. This is not universally true nor does it hold true throughout the shrimping season. When it does occur, fishermen, by the use of the try-net as a sampling device, can move out of an area where small shrimp are predominant and into an area where large shrimp are in the majority. When this situation occurs the shrimper attempts to do this to the best of his ability, not with an eye to fishery management or conservation, but solely for economic reasons since the larger shrimp always bring a higher price.

In 1953, during March, April and May, shrimp under 5" were relatively non-existent at the offshore stations regularly visited by the survey crew of Bears Bluff Laboratories. At no other time of the year were the less-than-five inch shrimp absent from the Laboratories' catches. Similarly, during this Spring season all size shrimp were relatively scarce. Actually, the shrimping season in South Carolina does not get under way until toward the latter part of May when shrimp of all sizes become more abundant. Therefore, it would be entirely impracticable to prohibit shrimping during any particular season to completely eliminate the catching of shrimp under 5".

More Information Needed

Until more is known about shrimp and the shrimp industry, it is impossible to state dogmatically whether or not small shrimp need protection. If given freedom from fishing pressure would the entire population of shrimp become more abundant and would the catch of large shrimp by fishermen increase? Mankind universally accepts the belief that the young of any form of life needs protection. Assuming that this universal feeling will sooner or later insist on the passage of some legal restriction on the taking of young and small shrimp, at which size then should restrictive measures start?

To be in accord with other shrimping States, South Carolina would have to have a law placing the minimum shrimp size at between 4 and 4½". To be in accord with economic law, the State would have to have a minimum shrimp size regulation restricting the landings of shrimp to those over 4", since shrimp smaller than 4" are either unprofitable, almost unprofitable, or impossible to market.

From the viewpoint of fishery management, South Carolina, if it must have a law, should regulate the size of shrimp to restrict the landings and sale of shrimp under 4". The increase in weight of shrimp in relationship to increase in length is proportionately much greater below the size of 4" than above 4".

If the purpose of a minimum size restriction simply is to reduce the total volume of small shrimp to be caught and if such a move ultimately would benefit the people of the State of South Carolina, then the complete closure of shrimping for the month of December would stop the taking of a large percentage of the small shrimp, since during that month (in 1953) only about 12% of the shrimp caught were over 5" and 88% under 5", with 42% being under 4". Applying this to the 1950 catch records, a "saving" would have been made of 204,160 lbs. (4.0% of total catch) of small shrimp at the expense to the fisherman of 28,866 lbs. (0.6% of total catch) in large shrimp.

Since December of 1949, Bears Bluff Laboratories has been investigating off and on the selectivity of different types of otter trawls and different mesh sizes. This work is entirely too preliminary to be conclusive, but the hope is that ultimately some type of selective gear may be devised which will eliminate the catch of the majority of shrimp under 4".

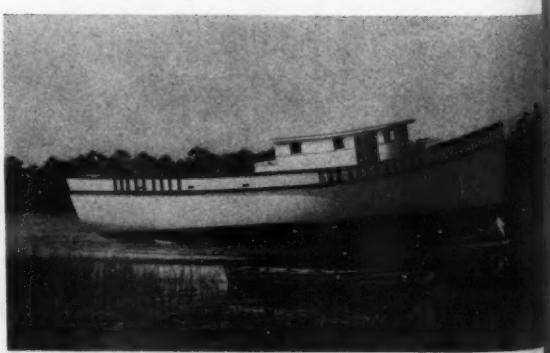
South Carolina Yard Builds Trawler "Jordan Bros." for Florida Owner

The 71' trawler *Jordan Bros.*, recently launched by Lawson's Boat Yard, Wilkins, S. C., will be used for shrimping in Mexican waters. She is owned by Capt. Sam Jordan of St. Augustine, Fla., and her beam is 20' while draft is 9'.

Designed by her builder, the craft has 3" x 5" steam bent oak frames; the stem is live oak; planking is 2" cypress; and ceiling is 2" pine. Her decking is 2" x 4" and deck beams are 4" x 4". Dimensions of the pilot house are 21' x 8'.

The hold of the new shrimper has a capacity of 45 tons and the craft can carry 9,000 gals. of fuel. She has 4 bunks in the fo'c's'le and 2 in the deckhouse. Her engine is a 6-110 General Motors Diesel which is rated 205 hp., and gives the vessel a speed of 9 knots. It turns 5-blade 50 x 44 Columbian propeller on 3" bronze shaft with Goodrich Cutless stern bearing, through 4.5:1 hydraulic reduction gear.

Other equipment on the trawler includes Onan generator and Hathaway winch. Rigging and installation work on the shrimper was done by Bush & Pope of St. Augustine. The vessel is finished with Hart & Burns Navicote paint.



The new 71'6" trawler "Jordan Bros.", built by Lawson's Boat Yard, Wilkins, S. C., for Capt. Sam Jordan of St. Augustine, Fla.

Restocking of Great Lakes Trout Planned

Michigan Fish Producers Convention delegates told that trout will be planted when sea lamprey is subdued

Officials addressing members of the Michigan Fish Producers Association at their annual convention in Escanaba. Shown from left to right are Claude Ver Duin, Grand Haven, secretary-treasurer of the Association; Dr. James W. Moffett and Dr. Ralph Hile of the U. S. Fish & Wildlife Service.

RESTOCKING of Great Lakes waters with trout will be undertaken as soon as the lamprey is reasonably under control, Fish & Wildlife Service officials told delegates attending the annual convention of the Michigan Fish Producers Association at Escanaba Jan. 24-26. The Fish & Wildlife Service men, who have been conducting research and study to find effective methods of controlling the sea lamprey, assured Great Lakes fish producers that the fight against the pest will continue in years ahead if funds are available.

Dr. Paul Eschmeyer, recapitulating the progress of the Fish & Wildlife Service last Summer in control of the lamprey on Lake Superior—the last of the five Great Lakes to be invaded by the predator eel—said information assembled is now being given detailed laboratory analysis in Ann Arbor. Dr. Eschmeyer revealed that experiments in restocking of lake trout already have begun in Lake Superior, and agreed that planting will be imperative to return trout to Lakes Michigan and Huron "as soon as the lamprey is reasonably under control."

Installing Additional Electrical Barriers

Leo Erkkila, in charge of the Marquette, Mich. regional station of the Fish & Wildlife Service, reported that the presence of the lamprey in Lake Superior in larger numbers than anticipated has induced the Service to expedite installation of control barriers. He said 1,665 lampreys were "stopped" in 23 devices located between Ontonagon and Sault Ste. Marie, Mich., last Summer.

Additional electrical barriers as control measures will be extended on the south shore of Lake Superior to total 47. By Spring, Erkkila said, additional lamprey traps will be in operation on Little and Big Bays de Noc. Surveys also will be made to locate additional electrical barriers across potential lamprey streams south of Escanaba on Green Bay.

Speaking on the "bloater" situation, Erkkila said that the Service is planning investigation of the alarming increase in "bloaters" now plaguing upper Lake Michigan fishermen. He outlined the program for 1954, disclosing that the Service's regular 63' research vessel Cisco would be taken off its Lake Superior project and sent to northern Lake Michigan.

The bloater is not one specific species, but a whole group of so-called "noxious" or worthless fish, the Fish & Wildlife Service biologist said. The most common variety, however, is the "chub", which is edible when smoked.

Erkkila said such fish are being profitably processed for industrial use in other areas. He foresees lucrative disposition of them for mink ranch feed, oil reduction or fertilizers.

Protection of Lake Superior Trout Essential

Dr. James W. Moffett, chief of Great Lakes Fisheries Investigations for the Fish & Wildlife Service, said that the re-establishment of lake trout and whitefish is one of the main problems confronting the researchers. He cited as essential the all-out efforts to keep Lake Superior trout because they may be needed as a source of eggs to restock Lakes Michigan and Huron.

Dr. Moffett continued: "We will very likely have to go to a stocking program once the lamprey is under control. If trout die out in Lake Superior we will have to go to Great Slave Lake and the eggs will cost $3.25 per 1,000. When you realize we need one million lake trout eggs, it runs up into big money."

Dr. Moffett said lamprey control will be extended on Lake Michigan, with Lake Huron to follow. So far the battle against the lamprey in the Great Lakes has cost about $1,000,000 in Federal appropriations. Dr. Moffett believes the lamprey research program should have a budget of $825,000 to complete control measures, and $400,000 annually after that to maintain them.

Notwithstanding the great abundance of chubs, the value of fish production has gone down rather than up because of the virtual absence of trout and whitefish, Dr. Moffett noted. He pointed out that more chubs and fewer trout means fishermen work harder for less money.

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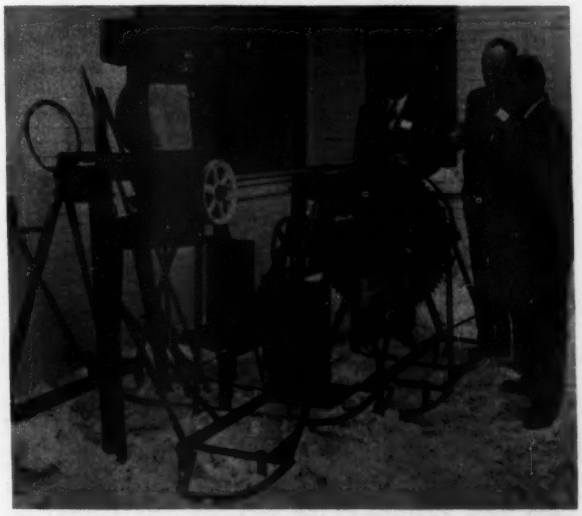


Ice-cutting equipment shown at Escanaba during the Michigan Fish Producers Association convention. Commercial fishermen inspecting the machine are, from left to right: Emil Perow, Melvin Jacobsen and Gordon Topel, Delta County, Mich.

Two views of the new 60' shrimper "Nancy Darnell", built by Lionel Eleuteris of Biloxi, Miss. (left) for his cousin Leo Eleuteris, shown at right. The craft is powered with a 135 hp. Murphy Diesel.

Shrimper "Nancy Darnell" Is Fine Addition to Fleet

Building of Mississippi Craft Was "Family Affair"

One of the finest medium-sized trawlers ever built in the Biloxi, Mississippi area is the *Nancy Darnell,* which local waterfront observers watched grow from a square stick of heart pine lumber to a real thing of beauty. The launching took place one day last Fall, and was quite impressive with the whole family taking part in the ceremonies.

The builder of the *Nancy Darnell,* Lionel Eleuteris, for some time has been turning out trawlers up to 50' in his front yard on East Third Street in Biloxi. When his cousin Leo Eleuteris closed with him on the *Nancy Darnell,* a sixty-footer with more beam than the front yard fence and the big sprawling oak tree would allow for the long haul to the water's edge, Lionel had to change his system. "Couldn't cut that tree down," Lionel said, "because my Dad planted that many years ago. When he built boats before me that tree made quite a comfortable shade."

For many years boat builders depended on the moss draped oaks of Biloxi to form a "shed". Boats were "drafted" mentally, and heated discussions along with friendly arguments formed the basis of the new super boat of the future. Today that boat has arrived, for the new trawlers are not only good to look at but real pieces of working machinery. With the excellent boat building know-how available, coupled with latest electronic devices, the modern trawler can go out into the Gulf and search out shrimp that many years ago could not be found. Strong rigs and powerful deck machinery make all men physically equal to the task of catching shrimp.

As time goes by, it becomes increasingly more difficult to obtain good heart cypress, a wood which has been for many years the real backbone of trawl boat building. Not many years ago a firm in Pensacola, Fla. began to import Central and South American woods, and today all the material for a trawl boat can be obtained from this firm. Honduras mahogany can be procured in length and widths suitable for boat building. Heart long leaf yellow pine is available from many parts of Mississippi.

Getting back to the *Nancy Darnell,* Lionel Eleuteris drafted the craft in his side yard under the oaks and brought the patterns to a local yard on the front beach. Here the *Nancy* began to take shape as the heavy double frames were lifted in their positions and the stem and stern were attached to the keel and horn timbers respectively. Long timbers of 2" Honduras mahogany that made up the planking were put into place, and soon the *Nancy* began to shape up into a real seagoing trawler.

Each step in the building operation was carefully executed, and there was no doubt in the owner's mind that when the *Nancy* was called upon to bring that load of jumbo shrimp from the Gulf of Mexico, she would be right there, willin' and able in the face of a howling Nor-'wester. The day of the launching came, and families of both Leo and Lionel were on hand to see the fruits of their labor hit the quiet waters of the Mississippi Sound. The *Nancy Darnell* slid into the Sound without a hitch, and the culmination of a lifetime ambition for Leo, as well as the satisfactory climax of three months of good hard work and planning for cousin Lionel finally had become a reality.

Here are a few facts about the *Nancy Darnell:* She is 60' overall with an 18' beam, and draws 5' when light. The trawler is powered with a 135 hp. Murphy Diesel that drives a 46 x 32 three-blade Columbian propeller on 3" Monel shaft through 3:1 reduction gear. She is equipped with a ship-to-ship radio.

New Jersey Striped Bass Law Gets First Test

As the first test of the new law prohibiting netting of striped bass, two Green Bank men were fined $500 and costs each, their boat and equipment was confiscated, and their commercial license was lifted. The law was passed last summer after sportsmen from throughout the state protested that commercial men were rapidly killing off the species by excessive netting.

Magistrate Karl Stein explained that the fishermen were fined $20 for each of 25 fish caught. He said it would be up to the discretion of the Fish & Game Commission when or whether the license would be restored.

Start Repairing Manasquan Inlet Bulkhead

Word was received last month from Congressman James C. Auchincloss that work on repairs to the steel bulkhead on the north side of the Manasquan Inlet would start about the middle of March.

According to Auchincloss, award of a contract in the amount of $54,000 was made following receipt of bids for the work. The Congressman informed the Chamber of Commerce that the complete cost of dredging the inlet would be $250,000.

According to the Chamber Committee, the worst part of the inlet right now is the rocks which, following the fall hurricane, fell into the channel from the north jetty thus further obstructing passageway of boats entering and leaving the inlet. A sand bar caused by shoaling immediately outside the entrance to the inlet, and which partially fills the south side of the inlet, makes present navigation hazardous, according to commercial fishing boat interests and party boat operators.

It is claimed that the entire fishing industry of Point Pleasant is threatened unless the inlet is repaired.

Maine Boat Yards Launch Two Fishing Draggers

Two new fishing draggers for Massachusetts owners slid down the ways at Maine boat yards recently. Over 600 people witnessed the launching early this month of the 115' dragger *Judith Lee Rose* at Southwest Boat Corp., Southwest Harbor. The largest fishing craft ever built in that area, she will be operated by Capt. Frank Rose, Jr. of Gloucester, Mass., and has a capacity for about 325,000 lbs. Designed by Dwight S. Simpson of Newton, Mass., she is expected to be a fast boat, having a speed of better than 11 knots. Her power plant is a 615 hp. Enterprise Diesel.

The 85' dragger *Mother Frances*, built for Capt. Salvatore Passanisi of Somerville, Mass. was launched Feb. 16 by Harvey F. Gamage of South Bristol. Designed by Dwight S. Simpson of Newton, Mass., the vessel is powered with a 280 hp., Model 45 Atlas Diesel engine.

Two Trawlers Will Join Rockland Fleet

General Foods Shipyard has under repair two 145-ft. steel trawlers which will join the Rockland fleet as soon as work is completed. The *Ocean* and *Squall*, recently towed across the North Atlantic to Boston, will soon go into service with the Rockland fleet. The *Squall* will be at the shipyard several weeks while a new 900 hp. General Motors Diesel is installed.

Ownership of the trawler *Breaker* was transferred last month from General Foods to Boston Bonnie Fisheries, Inc. of Boston. The *Breaker* is to be renamed the *Boston Bonnie*. She sailed for Boston on February 10 and will be made ready for service out of that port.

Senators Want More Sardine Fishery Research

U. S. Senators Margaret Chase Smith and Frederick Payne of Maine are concerned lest the sardine fisheries of that State become depleted. They recently have discussed the matter with officials of the Fish and Wildlife Service and with Maine State authorities and the sardine industry. The result of these studies indicates that a more adequate research program is needed.

Biologists have indicated to the Senators that a research program eventually should bring about more orderly planning for the sardine industry, since it might be possible to obtain facts which would enable the industry to have advance information on what the annual runs might be. There seems to be ample legislative authority for the Federal Government to carry on the necessary investigations, but there is a lack of funds.

An estimate indicates that an annual appropriation of $116,000, plus the use of available floating equipment in the area, would provide the personnel and tools necessary to do the job. It is the intention of the two Maine Senators to discuss the matter further with the entire Maine Congressional delegation at their next meeting, and it is expected efforts will follow to secure the necessary appropriations. Consideration also will be given to the inclusion of mackerel, since it is understood this work could be carried on simultaneously with the sardine investigations.

To Patrol Coast by Plane

At the request of Commissioner Stanley R. Tupper, Gov. Cross and the Executive Council last month approved a proposal to lease a seaplane from the Inland Fisheries and Game Department for coastal patrol by the Sea & Shore Fisheries Dept. Tupper said Maine's many bays and islands make warden patrol work extremely difficult, and that use of a plane would increase the wardens' effectiveness greatly.

First Shipload of Fillets from Iceland

The first shipload of frozen fish fillets from Iceland arrived in Portland on February 24. Capt. Gudni Jonsson, master of the 239-ft. motorship *Jokufell*, said service in unloading the 400 tons of fillets was better and faster than in New York. Most of the fish imported from Iceland is taken out in New York.

The 33' lobsterman "Leroy E.", built by Stonington-Deer Isle Yacht Basin, Stonington, Me. for Maurice M. Eaton as prototype. She shows a 20-knot turn of speed with Osco-Ford Marined engine which handles a 20 x 16 Columbian wheel through 2:1 reduction gear.

February Groundfish Landings at Rockland

Totalling 1,079,000 lbs., groundfish production at the port of Rockland for the month of February was nearly 200,000 lbs. heavier than in the previous month. The catch included 1,072,500 lbs. of ocean perch and 6,500 lbs. of mixed fish. The landings on February 2 amounted to 249,100 lbs., and this was the best day's yield during the month.

Lobster Boat "Teaser" Launched

Newbert & Wallace of Thomaston recently launched the 34' lobster boat *Teaser* for Capt. Ira Tupper of Vinalhaven. The boat has a beam of 10'3" and draws 3'6". She is oak framed and cedar planked. Her equipment includes an 85 hp. General Motors Diesel, Bendix depth recorder, White compass and stainless steel tanks.

Sea Scanar Locates Fish for Trawler "Triton"

More than 122,000 lbs. of cod and haddock, valued at $11,200, was netted in a recent trawler trip that marked the first use of a new underwater scanning device in New England commercial fishing. The *Triton*, owned by Fulham Brothers, Inc. of Boston, landed with the fish catch after a trip to Brown's Bank off the southern end of Nova Scotia. The fish were located by the vessel's Sea Scanar, a new type of electronic echo-sounding unit developed by Minneapolis-Honeywell Regulator Company's marine division in Seattle. This device sends bursts of high-frequency sound waves probing under the water in a 180-degree arc at depths from the surface to the bottom.

Capt. John Kelly of the *Triton* revealed that after dragging the net through a school of fish, the ship, via the Sea Scanar, could locate the same school and pass through again. It also could pick the densest part of the school. The Sea Scanar unit was installed aboard the *Triton* at the Birds Eye Ship Division of General Foods, Rockland, Maine.

Houghton-Arnold New Caterpillar Distributor

Houghton-Arnold Machinery Co. has taken over the "Caterpillar" distributorship for the State of Maine. The firm is located at 26 Warren Ave., Portland, occupying the same facilities formerly used by Southworth Machine Co., which has relinquished its Caterpillar affiliation.

The Caterpillar personnel previously connected with Southworth has transferred to Houghton-Arnold. President of the new firm is R. H. Houghton and Duncan Arnold is associated with him in the ownership and operation of the organization.

Earl LeMaire of Port Isabel, Texas, with Maxim CQR 90-lb. anchor on his 67' steel shrimp trawler "Bertha G." Powered by a 220 hp. Buda engine, the craft has averaged 65 barrels per trip. Capt. W. M. Nelson is skipper and partner.

Texas Places Restrictions on Galveston Bay Oystering

Oystermen and the Texas Game & Fish Commission met in Galveston February 16 and set up plans to restrict oystering on certain reefs in Galveston Bay waters. Reefs which officials consider to be "overworked" will be staked off and only tongs will be permitted in these areas. On unstaked reefs the oystermen will be permitted the use of dredges.

The February 16 meeting climaxed a week of arguments pro and con. The issue came to a head when Game Supervisor Frank Mebane issued an order banning the use of oyster dredges after February 15 because of the depletion of the oyster supply. Had his order been made effective, only tongs would have been permitted after February 15. Oystermen claimed the use of tongs only would kill their business so the matter was settled with the compromise meeting on the 16th.

Oystermen Oppose Dredging Petition

Parker Bros. Dredging Co. of Houston, Texas, recently petitioned the Texas Game & Fish Commission for permission to cut a channel through Todd's Dump, a live oyster bed in Galveston Bay. The petition, however, did not meet with the approval of oystermen in the area and they succeeded in getting the Chambers of Commerce of nearby towns to pass resolutions opposing the dredging.

Parker Bros. seeks to dredge a channel 8000 ft. long by 300 ft. wide through Todd's Dump. According to spokesmen opposing the dredging, the channel would destroy a $500,000 annual oyster industry. The annual take from the reef is figured to be about 130,000 barrels.

"Viking" Runs Aground and Breaks Up

The *Viking*, trawler owned by Tim Hay of Brownsville, ran aground on a bar in the Gulf of Mexico, 30 miles north of Port Aransas on February 14 and broke up in rough seas. It was completely destroyed. The crew of three was rescued uninjured.

New Trawler Delivered

Felix Bruney and Chick Roberts of Corpus Christi have received their new trawler *Rose Croix* from the Conrad Industries of Morgan City, La. This is a standard 65-ft. model powered by a 120 hp. Caterpillar D13000 Diesel which was furnished by Holt Machinery Co. of Corpus Christi.

To Dredge Fish-Cut Across Bolivar Peninsula

The Texas Game & Fish Commission recently authorized the spending of $121,000 to dredge a fish-cut across Bolivar Peninsula. The purpose of the cut is to improve fishing conditions in an almost land-locked bay. The cut, which will be 80 ft. wide and 8 ft. deep will cross a neck of land about one-third mile in width. It will connect the Gulf of Mexico with Galveston East Bay.

Landings Good Despite Weather

Landings of marine seafoods for the 30-day period from January 20 to February 20 at Gulf ports were good considering the foggy and windy weather which kept all boats in port except the larger ones able to work well offshore.

Shrimp were plentiful in the extreme south Gulf, but wind and fog curtailed activity. Although large production of shrimp during this time of year is not expected, landing reports give a total of 10,706 barrels.

This is one of the best periods for edible finfish production, and 179,441 lbs. were reported from Galveston, Aransas Pass and Brownsville.

Oyster production was good. Ninety percent of the 13,257 barrels reported came from the Galveston area. Oysters are being shipped from there to the new breading plant of Joe Grasso and Sons at Harlingen and to the Keys Seafoods at Port Lavaca.

Trawler Destroyed by Fire

C. L. Nell, Sr., 60-year-old shrimper, and his son, C. L. Nell, Jr., narrowly escaped critical burns and drowning last month when their trawler *Texas No. 19* caught fire in the Gulf, three miles offshore twenty miles below Yarborough Pass.

Unable to bring the fire under control with fire extinguishers, the two seamen jumped overboard and started swimming toward Padre Island beach. Reaching shore, they walked all night and the next day along the beach before finding help. The *Texas No. 19* was a total loss.

Boats Fined by Mexican Government

On February 19 three U. S. trawlers—the *Success* and *Wm. J. Jr.* of Brownsville and the *Sam Houston* of Morgan City, La., were taken into custody by Mexican authorities for allegedly violating Mexican territorial waters. Cargoes and fishing gear were confiscated, and a fine of $580 was assessed against each trawler. The fines were paid the following day and the boats were released.

Marine Secretary Gen. Rodolfo Sanchez Taboada of Mexico promised to ask the Mexican Congress to put "more teeth in the law." He pointed out that under the present law, captured boats may pay only a comparatively small fine and go free only to resume fishing.

Mexico claims a 10-mile territorial water strip off her shores, while the United States recognizes only a 3-mile limit. According to authorities, the trawlers were working about seven miles offshore.

New England Boats in Texas

A large number of boats from the New England section have made the trip down the Atlantic coast, and are now busy fishing in the waters of the Gulf of Mexico. There has been a gradual increase in the number of out-of-state trawlers along the Texas coast since early last Fall. First, about 50 trawlers from Florida came to Aransas Pass and later the Atlantic boat fleet put in an appearance, and now their number is estimated at 75.

Trawler "Huckster" Lost

The trawler *Huckster* recently struck a submerged object which crushed the hull planking, 40 miles south of the south tip of Texas. The crew abandoned the vessel, which drifted onto the Mexican beach, where it broke up. It was owned by Art Goolsby of Brownsville.

Maryland Tongers Make Good Hauls on Kent Narrows

More than 400 tongers started oystering February 20 on Kent Narrows where oystering had been prohibited for almost five years because of polluted water. The tongers brought up bushel after bushel from the 20 acres of rich oyster rocks lying eight to ten feet below the surface.

They reported the oysters were thick and fat, after being protected for several seasons by the pollution ban. It was lifted recently after health authorities found an intensive campaign against sewage problems along the shoreline had reduced the bacteria count in the water.

One pair of tongers came in with a 50-bushel catch after four hours on the water, and Harvey Ruth, a packer, said they were the best he had ever seen in this area.

Urges Fishermen to Fight Striped Bass Bills

Four bills now before Congress are all aimed at ending the commercial fishing for rock throughout the nation; and, it is reported that there are only two or three states which are putting up any strenuous fight to prevent their passage. Congressman Edward T. Miller is working to prevent passage of these measures, and he urges all interested residents of the tidewater area to exert pressure on Maryland's senators, J. Glenn Beall and John Butler, to fight passage of the bills in the Senate.

Arthur H. Brice, chairman of the Maryland Tidewater Fisheries Commission, has requested a hearing before the committees which have these bills under consideration, so that he may present arguments against their passage.

Of all the states in the nation, it is claimed that Maryland would be most drastically affected by the passage of a bill outlawing commercial fishing for rock, or striped bass. The striped bass catch provides about 40% of the revenue earned by Maryland fishermen. In 1950, 3,028,752 lbs. of rock were landed in tidewater Maryland, bringing revenue of over a million dollars to the fishermen.

Getting Ready for Pound Fishing

Lower Chesapeake Bay fishermen are busy these days painting their boats, sharpening their pound stakes and mending and tarring their nets, in readiness for the 1954 Chesapeake Bay pound fishing season which will soon get underway. Scores of watermen who have been engaged in the oyster industry during the past Winter months, will find employment in placing and tending the nets.

Boats manned by five men or more bring in the catch from the nets and sell the fish to buy-boat captains, representing the large packing houses. Shad has been considered the money fish, but there has been a good demand for herring of late years. The roe from both of these fish find a ready demand. Quite a number of people are employed at the packing houses in splitting the fish and taking out the roe. Croakers, or hardheads, were once a despised species but each year there has been a growing demand for that variety.

The main fishing points on the lower bay are around Gwynn's Island, Little Bay, Indian Creek, Greater Wicomico, New Point, Horn Harbor, and Lower Machodick.

Watermen Hit by Drift Gill Net Ban

Kent County watermen who have been fishing in the Patuxent River with drift gill nets were dealt a severe blow last month as the Maryland Senate overrode a gubernatorial veto of a bill which prohibited use of such nets south of the river's toll bridge. Many Rock Hall fishing crews work the waters of the Patuxent and use drift gill nets.

The "Invader", 48' shrimp trawler owned by Leonce Lefort, Cut Off, La. She is powered by a 100 hp. Mack Diesel which swings Michigan propeller. Esso products are used.

Louisiana Inside Waters Closed to Shrimping

The season for taking shrimp in Louisiana "inside" waters closed February 15 and will remain closed until April 15. Twenty-four hour patrols to enforce the closed season will be maintained by units of the enforcement division.

Inside coastal waters are listed as: Chandeleur Sound, Breton Sound, Bastien Bay, Blind Bay, Garden Island Bay, East Bay, West Bay, Barataria Bay, Timbalier Bay, East Cote Blanche Bay, West Cote Blanche Bay, Vermilion Bay, and all the other bays and sounds along the Louisiana coast, and the waters of the Gulf of Mexico east of the Mississippi River to South West Pass, and between the "cutoff" at Rabbit Island, or the boundary between St. Mary and Iberia Parishes to the Sabine River west of the Mississippi River, of which the water is less than three fathoms deep.

New Steel Trawler Delivered

The Marine Construction Co. at Patterson delivered a new 70-ft. all-steel shrimp trawler last month to Emory Pacetti, of St. Augustine, Fla. The trawler, named the *Dean and Barry*, will operate for Pacetti & Sons of St. Augustine.

A twin set of General Motors Series 6-71 Diesels will power the craft. One of the unusual features of the boat is its fuel oil storage of 9000 gallons.

This is the second all-steel trawler to be completed by the Marine Construction Co. which opened the latter part of 1953. The first vessel was the 65-ft. *Miss Bobbie*, built for Norman Adams who captains it and delivers its catches to Deep South Seafoods, Inc.

Shrimp Harvest Heavy Last Year

Louisiana's shrimp harvest in 1953 reached a figure of 91,841,400 lbs. (437,340 barrels) for the highest production since 1946 when 464,981 barrels were marketed.

Twin City Co-op Has Grown Rapidly

Twin City Fishermen's Cooperative Association, Inc., with its headquarters and main plant at Morgan City, and a packing and freezing plant in Port Isabel, Texas, has grown in the less than eight years of its existence to the point where it is one of the leading shrimp producing organizations.

For the past two years the Co-op's two plants have packed a total of approximately 3,000,000 lbs. of shrimp each year. In 1953 actual total production was 2,984,045 lbs.

The Co-op's fleet of trawlers shrimping off the Louisiana and Texas coasts includes 52 vessels, with new trawlers for Theron Boynt, A. K. Knudsen and Orfanella and Allen being the latest additions. Capt. Ashley Galloway's trawler *Tar Heel* was the record producing vessel in the Co-op's fleet last year, with 80,555 lbs.

Florida to Get Research Vessel to Study Red Tide

The allotment of funds for the purchase of a research vessel to combat the "red tide" was announced on February 16 by Secretary of the Interior McKay. The vessel, to be operated by the Fish and Wildlife Service, will be based at Fort Myers, and will cost approximately $50,000 equipped. Operating funds will come to about $10,000. The new vessel will allow a more intensive study of the causes of red tide and will help in the effort to control the menace.

At infrequent and sporadic intervals over the past 100 years there have been mass mortalities of fish on the central west coast of Florida, caused by swarming of a microscopic organism called *Gymnodinium brevis*. Such episodes occur only in this part of the Gulf of Mexico. They also occur elsewhere in the world, nearly always in the same places. They always are caused by certain species of a class of organisms called dinoflagellates (having attributes of both plants and animals) which give off substances poisonous to fish and other marine animals. Both commercial and sports fishing are adversely affected during the fish kills, although no permanent decrease in fish abundance has been noted.

Long periods can elapse without red tides. No outbreaks were recorded between 1916 and 1946. Outbreaks have occurred with abnormal frequency since 1946. Between November, 1946 and March, 1947 dead fish and discolored water extended 125 miles from Naples, Fla., on the south to Clearwater, Fla., on the north, and seaward about 20 miles. A smaller red tide occurred briefly in November, 1952. Another appeared in September, 1953.

After the large outbreak of 1946/47 the U. S. Fish and Wildlife Service commenced biological studies to learn the principles underlying the causes of these blooms, with the aim of developing control or preventive measures. The studies to date indicate that the blooms seem to occur after periods of heavy rain followed by light winds blowing toward the shore. The water, enriched by land drainage, is held along the coast, thus developing conditions suitable for rapid reproduction of the microorganisms. As fish are killed, their decaying bodies are believed to release nutrients to the waters. These nutrients nourish the bloom and serve to intensify it.

University to Expand Red Tide Studies

An expanded program in research on the red tide is planned at the University of Miami Marine Laboratory. Dr. F. G. Walton Smith, director of the laboratory, revealed that the *Physalia*, an 85' research vessel, is being outfitted for the work and will leave for Fort Myers as soon as operational arrangements have been completed. Laboratory work also is being stepped up.

Taking part in the work, in addition to Dr. Smith, are Dr. Hilary Moore, assistant director and specialist on plankton; Dr. Ferris Smith and Dr. Limo Hela, research associates, and Frank Chew and Robert Hutton, research assistants. Dr. Smith said the increased activity has been made possible through supplementary grant of $25,000 voted for the research by the Florida State Board of Conservation.

"Pot of Gold" Lands Maiden Trip

When the new vessel *Pot of Gold* completed her maiden fishing voyage to Campeche, Mexico, recently she hailed for 17,000 lbs. of shrimp. Captained by F. L. Smith and owned by Truman W. Pacetti, the *Pot of Gold* is one of two new shrimp trawlers operating out of the Pacetti dock in Fort Myers. The other trawler is the *Prowler*, a vessel captained by Horace Lewis and owned by M. J. Costello, Jr.

Because shrimp are believed to be pressure conscious to three-quarters of a fathom, the two vessels have been equipped with Raytheon Submarine Signal "Fathometer" echo depth sounders by Superior Marine Radio of St. Augustine. With these "fish finders" on board, the vessels can seek out the contours where shrimp are found, set their trawls at the proper depths, and avoid underwater ledges that might tear or damage their nets.

Says Shrimping in South Like Vacation

Capt. Thomas B. Larsen of the boat *Marie and Catherine*, formerly of New Bedford, Mass., and now operating out of Key West, considers fishing in the South like a vacation. He says that in the South he shrimps only at night in good weather, whereas off New England he worked 24 hours a day in all kinds of weather.

The fishermen who have gone South are optimistic about small boats, but say big boats are not doing so well. Many of the New England craft dwarf the average Florida shrimp boat.

Capt. Jens Larsen of the 88-ft. *Gannet* from New Bedford, said a big boat has to catch three times as much shrimp as a small one. He believes that his craft is too big and is going back North, fishing along the Carolina and Virginia coasts on the way.

North Carolina Hard Crabs Plentiful as Season Opens

The hard crab season opened February 22, approximately two weeks earlier than usual. Commissioner Holland said that hard crabs were plentiful and that a thinning out among their swarming population would be helpful to the growth of young fish upon which the crabs feed.

He also extended the area in which the crabs may be taken. The extended area includes any of the channels of Core, Back and Bogue Sounds and North River above the highway 70 bridge.

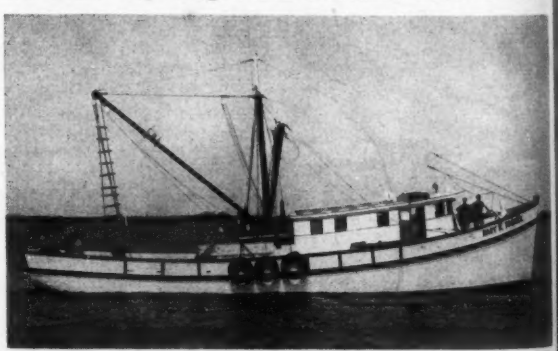
Hard crabs may be taken with trawl nets with bar of not less than two inches for the wings and not less than one and one-half inch bar for the tail bag.

Trawling may be done in creeks and bays provided it does not conflict or interfere with trot lining or crab pots. All hard crabs must pass inspection for size.

Shad Season Beginning

Dare County fishermen are just beginning to put out their pound nets for the shad season, but no big catches have been reported as yet, although the boats have been bringing in a few to Mill Landing at Wanchese.

Some fishermen were also bringing in a few sea trout and drum. Roy Midgett and Cleveland Gard of Manns



The 74' shrimper "Mary K. Toomer", owned by E. J. Toomer Co., Fort Myers, Fla., and skippered by Capt. Webbie Armstrong. The vessel is equipped with 120 hp. Caterpillar D13000 Diesel with 48 x 44, 5-blade Columbian propeller and Snow-Nabstedt 3:1 reduction gear; Rochester wire rope, Linen Thread Co. Gold Medal nets, Stroudsburg hoist, Maxim CQR plow anchor, Pearce-Simpson radiotelephone and Raytheon depth sounder. She is finished with Pettit paint, and uses Gulf fuel and lubricating oil and Columbian rope.

Harbor brought in about 70 shad, the biggest catch reported so far.

Early last month Ebert Gallop of Wanchese and his crew, while seine fishing, caught about 300 rock, none of which weighed less than 40 lbs.

It is estimated that from 50 to 75 trawlers operating off the coast came into Oregon Inlet a few years ago, but now they cannot get in. Most of these craft draw 4 and 5 feet of water, and the inlet is too shallow for them. Furthermore, it is claimed that sand shoals around Oregon Inlet tend to divert the fish seaward again in their search for an inlet to the sounds.

Institute to Have New Craft

A new boat of the trawler type will be built at the Williston Boat Yard, Williston, for the Institute of Fisheries Research, Morehead City. W. A. Ellison, Jr., director of the Institute, said the 45-ft. vessel will replace the *Robert E. Coker*, now used by the Institute staff. The *Coker*, a 39-ft. boat, has been put up for sale.

Mr. Ellison said he hopes the new boat will be ready for use by May 1. Of rugged construction so that it may be used offshore, the boat is expected to draw 4½ feet.

It will have hydraulic equipment for lifting, be equipped with Fathometer and radio and have a salinity cell in the keel so that recordings of salt content in the water may be taken continuously. The craft will be outfitted with all commercial type gear, including a 125 lb. oyster dredge and 40 to 50 ft. trawl.

Virginia Watermen Oppose Bill To Curb Dredging in James

A bill to limit oyster dredging in the James River or its tributaries west of the James River Bridge ran into strong opposition at a House committee hearing last month and was referred to a subcommittee for further study. A number of oystermen turned out to oppose the measure sponsored by Russell Carneal of Williamsburg.

The measure would limit dredging or scraping in the upper James to the month of December, and would affect 5,038 acres in the river. The law now permits dredging between November 1 and April 1.

One spokesman said the measure would hurt the smaller planters who must use scrapers and would close the small oyster houses that depend on them. Senator Mills Godwin of Suffolk said the legislation would be an infringement on the right of owners of private planting grounds.

Carneal drew strong support from Senator Marvin Minter of Mathews, however, who saw the bill as a way of preserving natural seed beds in the James. He said they were the only ones of any importance remaining in the State.

The House committee did approve a bill sponsored by Delegate Tayloe Murphy of Warsaw to provide for 12-month dredging permits. Permits are now limited to three months. The same bill would prohibit dredging equipment being carried on boats except those going to and from oyster grounds.

Tangier Oystermen Have Profitable Season

The oyster dredging season closed in Tangier waters the 15th of March and on the whole the season was fairly prosperous.

Crab potters in Tangier waters started fishing their pots about the first week in March. According to reports, some 80 potters set their pots in the creeks and along the shores of Tangier Island. The average potter will fish about 75 pots.

Between February 1 and March 1 is the off-season for a good many Tangier fishermen. During this period, while waiting for crabbing to begin, many fishermen are making crab pots; others are clamming. One clammer in Tylers Creek has been taking from 1000 to 1500 clams a day.

Co-owned by R. E. Simmons of Cobbs Creek, Va. and his brother Charles, the 43' "Al Smith" is used for dredging oysters. She is equipped with 115 hp. Chrysler Crown engine, 21 x 15 Columbian propeller, Stroudsburg winch and Columbian rope. Gulf lubricating oil is used.

Good Oyster Strike in James River

The James River seed oyster area experienced a good strike of spat during the 1953 summer spawning season, and especially so on Horsehead Bar, according to scientists of the Virginia Fisheries Laboratory. However, the biologists indicated that the new set was not as great as that of 1949 when an unusual abundance of young oysters was realized. The James River seed beds rank as superior along the coast in the quantity and quality of seed oysters produced, as well as in the vast acreage of bottom in seed production.

Bill Would Create New Oyster Reserves

New oyster reserves would be created in waters off Mathews County under a bill proposed last month in the General Assembly by Sen. Marvin Minter of Mathews. The bill provides that the area near Hole in the Wall, and the area in Hill's Bay on the western side of Gwynns Island shall be declared natural oyster rocks, beds and shoals shall not be leased to the public.

Hampton Roads Area Landings

A decline of nearly half a million pounds from February, 1953 was shown by fish landings in the Hampton Roads area during the month of February this year. The catch for February, 1954 amounted to 3,185,700 lbs., and included 103,500 lbs. from pound nets, reflecting the resumption of this type of fishing. Over 80% of the entire yield was made up of two varieties—scup (1,467,100 lbs.) and sea bass (1,161,300 lbs.).

Georgia Seafood Firm Takes Delivery of New Shrimper

A second new shrimp boat, the *Miss Carol*, has been delivered to the Lewis Crab Factory of Brunswick, and has joined the Lewis fleet fishing in Gulf of Mexico waters near Campeche, Mexico. The new boat is a sister ship of the *Miss Kathye* which was obtained several weeks ago.

Willoughby Lewis, partner with his brother, E. W. Lewis, in the firm, said Capt. William Elliott, formerly of Norfolk, Va., has been placed in charge of the vessel. The new boat is 68 ft. long, and was built in St. Augustine.

Long Island Association Re-elects Pell President

William R. Pell of the Pell Sea Food Co., Greenport, was re-elected president of the Long Island Commercial Fishermen's Association at the annual meeting held on February 19. This is his sixth term as president of the Association.

During the business meeting, legislative matters were discussed and it was brought to the attention of the members that bills detrimental to the commercial fishing industry have been introduced into the legislature again this year. The following committee was appointed to attend the conservation hearing in the State Assembly chambers at Albany on March 3rd: William R. Pell, Edward Winters, William Lester, Elisha Ammon, Kenneth Edwards, Nicholas Griek and Joseph Tuthill.

Among the directors elected were Stanley Case, Cutchogue; Philip Reinhardt, Southold; Fred Fiedler, Greenport; Harry Burden, Orient; William Lester, Amagansett; Elisha Ammon, Kenneth Edwards, Perry Duryea, Jr. and Joseph Tuthill, Montauk.

Fishermen Oppose Mooring Installation Plan

Two fishing companies, Short Beach and White Cap, have filed objections to a proposed installation of 34 moorings in Orowoc Creek by Mrs. Hertha Panzner who operates a trailer camp at Islip.

Mrs. Panzner has filed an application to construct a bulkhead and dredge and install piles. The plan calls for the installation of 14 timber piles 30 ft. offshore off a 210 ft. section of bulkhead and 20 piles in an adjacent basin.

The fish companies declare that the construction of these piles in the basin would interfere with the navigation of fishing vessels in Orowoc Creek, and that, by their deeds, they are granted the right of way in this area.

Want More Oyster Research

At the semi-annual meeting of the Board of Directors of the Oyster Growers and Dealers Association, held in New York in January, a resolution was adopted which requests of the Federal Government an appropriation of $50,000 to expand research at the Milford, Conn. Fisheries Laboratory. Board representatives pointed out the failure of oyster set in the area for a number of years. This, coupled with severe losses from drills and damage to the stocks from severe storms in recent years, plus other happenings, has made it urgent to determine what are the causes of the set failures and how the enemies can be controlled.

The Board in its resolution specified that the program should continue for at least five years, since it appears doubtful that the desired results can be obtained in less time.

Fire Island Inlet to Be Kept Open

Rep. Stuyvesant Wainwright was informed last month by Major General B. L. Robinson of the Army Engineers, that the Corps of Engineers has agreed to maintain Fire Island Inlet at project depth. This was interpreted to mean that the Inlet would be maintained at a depth of 10 ft. and a width of 250 ft. from deep water in the ocean to deep water in the inlet. This depth and width was the original recommendation of both the Chief Engineer and the Secretary of the Army in 1948.

The entire south shore will benefit substantially from the economies that will result from the shipment of goods through the navigable inlet, and the fish and shellfish industry will be revitalized.

With the improvement of Jones Inlet now under way, connecting with Fire Island Inlet by the State boat channel, boat owners will have a continuous sheltered waterway.

The "Mabel", 43' dragger owned by Carl W. Creaser of Amagansett, N. Y. Her power plant is a 110 hp. General Motors Diesel, and she is equipped with Exide batteries.

Cape Cod Firm to Harvest And Process Ocean Clams

Three Boston men, William C. Waugh, Charles T. Russell, Jr., and Dr. Henry D. Russell, professor of marine biology at Boston University, have formed the Cape Cod Shell Fish Corp., and will harvest and process on a large scale the so-called ocean clam, of which there are rich untouched beds off Cape Cod and many other sections of the Massachusetts coast.

The Corporation has contracted with a fleet of light draggers and obtained a freezing plant in Sandwich, at the eastern end of Cape Cod Canal. They gave a demonstration of an ocean clam dragging operation aboard the *Monte Carlo* on February 14 for a number of principals in the fishing industry in this country and in Canada.

When the clams are taken from the draggers at the Sandwich freezer, they will be washed, shucked and the livers removed and then chopped up. Next, they will be put in five-pound bags and the bags in turn will be placed in light cardboard cartons. From here they go to a plate freezer. Then 10 of the cartons, making a total of 50 lbs. of chopped-up clams, will be placed in a heavy cardboard container and put into a space freezer.

The ocean clam once was known as the mahogany quahog, but the new name was adopted officially in 1943 by the U. S. Food and Drug Administration as a trade label for this species. It resembles in many respects the better known bay quahog, and its edible and nutritive qualities are essentially the same.

A survey made a few years ago showed that ocean clams generally were present in sand-mud or mud bottoms where the depth was 60' or more. None ever was found in clear sand or depths less than 60'. In the Vineyard Sound region an extensive bed was found south of Cuttyhunk extending northeasterly toward Nashawena Island.

The greatest concentrations were found in water 80' or more in depth with a slight falling off as sticky mud was approached. The ocean clams were in sufficient abundance to permit catches of one to two bushels per 10-minute tow with a small dredge.

A second large bed of ocean clams was found in Cape Cod Bay north of Barnstable and Sandwich in water more than 60' deep. Here again the greatest concentrations occurred in sand-mud bottoms.

A promising area south of Gloucester proved to be too rocky for dredging in depths less than 100'. North of Cape Ann the bottom was too sandy with the exception of small areas off the outlets of Plum Island Sound and the Merrimack River.

Thus the survey found "there appears to be a sufficient supply of ocean clams to furnish fishing for a considerable fleet of small boats for several years if a market can be developed."

New Bedford Scallop Industry To Advertise Cooperatively

The New Bedford scallop industry has initiated a co-operative advertising and promotional campaign to bolster the market for the sale of sea scallops. Segments of the industry participating are boat owners and the allied industries serving the scallop fisheries.

Boat owners have agreed to contribute one per cent of the net owner's share from the sale of scallops, and allied industries have agreed to contribute one per cent of gross monthly sales and services to the fund. The program is expected to raise $2,000 per month, or approximately $25,000 a year.

The State has been requested for financial assistance to aid the program in its initial stage. The industry feels, however, that continuance of the program can be financed solely from the business itself. Contributions began March 1 from the boat owners, and a plan for collection from the allied industries was expected to be formulated within two weeks.

The advertising and promotional campaign is significant in that it is reported to be the first time in the history of the port's industry that any such cooperative venture has been implemented. It is believed that the program may represent a significant trend of the industry to revitalize itself from within its own ranks.

Scallops Bought by Army

The Army Quartermaster General on February 18 advised Sen. Saltonstall of Massachusetts that the Army had bought approximately 178,000 lbs. of scallops in the New Bedford area. The New Bedford Seafood Producers Assoc. had appealed to Saltonstall last month for help in relieving the surplus scallop situation.

Saltonstall suggested that the Quartermaster General might take advantage of the low prices and put more scallops on Army menus. It is understood the price paid was about 50¢ a pound and that more would be purchased if the availability and price continue favorable.

Drops Application for Fillet Plant

Philip J. Murphy, owner of the Dartmouth Fillet Co. of New Bedford, has withdrawn his application for permission to locate a plant on Mullins Wharf in Fairhaven. Regulations drawn up by Fairhaven selectmen were "burdensome", Mr. Murphy contended.

Claims Vessels Violating Contract

Moves to Southern shrimp fishing waters by New Bedford fishing vessels are contract violations, according to Patrick McHugh, secretary-treasurer of the Atlantic Fishermen's Union. In a letter to owners involved, he called such actions a violation of collective bargaining agreements signed July 3, 1952.

Two Fishermen Lost at Sea

Two New Bedford fishermen were lost February 15 when the 38-ft. vessel *Clara T.* went down in heavy seas 10 miles southwest of Block Island, R. I. Coast Guard planes and surface craft carried on a seven-day search for the dragger which was owned and skippered by Robert Sanchez. James Mendes, sailing with Capt. Sanchez, was making his first trip in four years.

New Engine Installed

The *Porpoise*, owned by Capt. Olaf Enoksen of New Bedford, is having a new 250 hp., 7 x 8¼ Wolverine-Waukesha engine installed at the Hathaway Machinery Co., Fairhaven. The engine is equipped with Twin Disc forward power take-off, Snow-Nabstedt 3:1 reduction gear, Westinghouse Tridyne controls, Winslow filters, and Ingersoll-Rand air starting motor.

William Haskell and his son of Essex, Mass., on their 32' mackerel netter. The craft has a capacity of 9,000 lbs., is finished with Henderson & Johnson paint, and uses Gulf fuel and lubricating oil. She is equipped with Northill anchor, Hyde propeller and Columbian cordage.

Gloucester Draggers to Go Shrimping in South

Three draggers are scheduled to leave Gloucester by the middle of March to join the shrimpers in the South, causing a loss to Gloucester of at least 15,000,000 lbs. of fish per year. They include the 65-ft. *St. Rosalie*, Capt. Mike Parisi; the 70-ft. *Lois T.*, Capt. Jack Barbara; and the 75-ft. *Chebeague*, Capt. Tony Frontiero. They are all bound for Gulf Shores, Ala., a small port within 30 miles of Pensacola, Fla.

In the South already, looking things over to decide whether or not to fish for shrimp out of the Alabama port are Capt. Salvatore Frontiero of the 57-ft. dragger *Carol Jean* and Capt. Tony Parco of the 69-ft. dragger *Yankee*.

Sale of "Della Mae" Confirmed

Judge Francis J. W. Ford in Federal Court on February 24, confirmed the sale of the fishing vessel *Della Mae* to the Pioneer Vessel Corp., Gloucester.

Three Draggers Sold to Nova Scotia

Three high-line draggers, the *Felicia, Mary and Josephine* and the *Benjamin C.*, have been sold by Capt. Benjamin Curcuru of the Producers Fish Co. to the National Sea Products Co., Halifax, Nova Scotia. These vessels have been delivering 15,000,000 lbs. of fish annually to Gloucester.

Having New Engines Installed

Two Gloucester boats are at the Wolverine Motor Works, Inc., Bridgeport, Conn., for engine installations. The *Santa Lucia* owned by Tony Bertolino is being repowered with a 200 hp., 6½ x 6¼ Wolverine-Waukesha with a Snow-Nabstedt 3:1 reduction gear and Twin Disc forward power take-off.

The *Ann Marie*, owned by Capt. Cusumano has a Model 779 Wolverine-Waukesha with Snow-Nabstedt reduction gear. Equipment on the engines of both boats includes Westinghouse Tridyne controls and Ingersoll-Rand air starting motors.

Gordon Moore

Gordon Moore, 44, of Rockport, Mass., assistant manager and assistant treasurer of Cape Ann Fisheries, Inc., died of a heart ailment on February 12. Mr. Moore, associated with the Cape Ann Fisheries for 15 years, was in charge of fish sticks promotion for that company.

Mississippi Seafood Firm Opens New Biloxi Plant

A new modern seafood factory opened last month in Biloxi after being constructed and equipped at a cost of almost $120,000. Southern Shell Fish Co. which has had a factory in Biloxi since 1936, occupies a new building on East Bay View Ave.

The new factory is equipped with all modern conveniences, and, according to Chester A. Delacruz, manager, is a great improvement over the old factory.

At the height of the shrimp and oyster season, the factory, equipped to can both oysters and shrimp, will employ about 150 persons—120 oyster shuckers and shrimp pickers, 25 working on the canning line, and five working in the warehouse packing and storing.

Overall size of the new building is 60 x 223 ft. The shucking and picking room is 60 x 130 ft., while the packing room is 60 x 100. The Southern Shell Fish Co. also has a factory in Harvey, La.

Antitrust Suit Ends in Mistrial

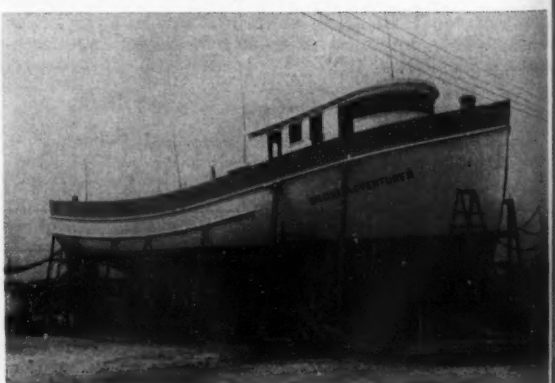
U. S. District Judge Sidney C. Mize set June 7 for a rehearing in the government's antitrust suit against the Gulf Coast Shrimpers and Oystermen's Association. The case ended in a mistrial on February 18.

The federal indictment charged the association and four officers with conspiring to fix prices in interstate commerce in restraint of trade. Defense attorneys maintained the defendants were caught in a market controlled by the dealers and were attempting only to protect themselves. Prosecutors charged the association wasn't a labor union because it didn't bargain for wages, but rather for prices on a commodity.

Seafood Catch Declines

Landings of all species of fish and shellfish at Mississippi ports for 1953 totalled 73,587,200 lbs., as compared with 132,714,900 lbs. during 1952. This represents a decrease of 59,127,700 lbs., or 45 per cent.

Most of the decline was due to a falling off in the menhaden catch. In 1953 landings of this species amounted to 53,557,900 lbs., or less than half the 1952 haul. Oyster meats accounted for 4,219,050 lbs. of the entire catch, while the landings of heads-on shrimp were 13,951,800 lbs., and hard crab production totalled 1,364,750 lbs. All of these shellfish items showed slight declines as compared to the previous year.



Built by her owner, Nick Skrmetta of Biloxi, Miss., the new 75' x 2[illegible] x 9' fishing boat "Biloxi Adventurer" has mahogany planking o[illegible] cypress frames. Her power plant is a 205 hp. General Motors Diesel which turns 44 x 52 Columbian wheel on 4" Monel shaft.

Restocking of Great Lakes

(Continued from page 23)

Dr. Moffett also discussed the gradual removal of bays and pieces of bays for exclusive use of sports fishermen, particularly in the Green Bay region. "Sportsmen and commercial fishermen can work together," he suggested.

Researchers hope that studies can be undertaken to verify the belief that there can be too many fish in some areas of the Great Lakes and that stunting of some species will occur in the event commercial fishing is restricted.

Urges Marketing of Fish in Frozen Fillet Form

Fred A. Westerman of the Fisheries Division of the Michigan Conservation Department warned that the Great Lakes fisheries are facing stiff competition and will lose their Middle West market unless they begin putting up their product in a package that will be attractive to the housewife.

An increasing quantity of ocean fish is being sent to market frozen and attractively packaged, Westerman pointed out. "This," he said, "is presenting a new challenge to your fishermen."

"Here on the Upper Lakes the change to freezing and packaging has been slow," he added. "You need to offer frozen fillets. Perhaps some co-operative plan could be worked out to put your fish on the market in that form and meet the competition from Canada."

In the closing session, Ora Endress, a commercial fisherman from Grand Marais, was elected president of the Michigan Fish Producers Association for 1954. Charles Anderson is the retiring president.

Other officers named were Walter Olson, Gladstone, first vice-president; Harold Lentz, Standish, second vice-president; and Claude Ver Duin, Grand Haven, Mich., who was re-elected secretary-treasurer.

Connecticut Fishermen Land Big Herring Catches

Fishermen landed an estimated 695,000 lbs. of herring at Stonington during the month of February, according to figures compiled by the U. S. Fish & Wildlife Service. The herring bonanza was the chief source of income for Stonington dragger operators during the Winter months, as fish sent to New York markets fell off to a minimum. All of the herring was shipped to canneries in Lubec, Me., where it was used in the manufacture of dog and cat foods.

No large landings of herring are anticipated this month by the fishermen, who say that the run is definitely over. During the last few days of February, only minor catches of herring were brought in. Unseasonably warm weather was given as the reason for the disappearance of the fish from local waters.

Four Stonington Draggers in South

Four of Stonington's largest draggers have joined the fleet of New England fishing boats which has left for Texas to enter the shrimp fishing industry. First boats to go were the *Carol and Dennis*, skippered by Denny Cidale; the *Rita*, captained by Bill Roderick and the *Pat Frank Kessler*, skippered by Capt. Kirsten Kristiansen. They left shortly after the first of the year and are now actively engaged in the industry in Brownsville.

Earlier this month, another of the larger Stonington boats, the *Russell S.*, skippered by Carl Johnson, one of the fleet's most active young skippers, sailed for Brownsville.

Captains of boats who stayed behind are divided in their opinion of whether they will follow the lead of the other draggers. Joe Roderick, who recently took a trip south to explore the possibilities of shrimping, has given no indication that he will leave Stonington.

Joe Henry, a crew member of the *Rita*, is already back in Stonington and intends to stay. Henry definitely does not like the shrimping industry, and predicts that the Stonington boats will be back before long.

Taking the opposite view is George Roderick, who made the original trip aboard the *Rita* and since has come back to visit. He expressed the opinion that the future of Stonington fishermen is in shrimping, and said that he intends to stay in the South permanently. His brother, John Roderick, will join the crew of the *Rita*.

Fishing Boat Design

(Continued from page 18)

planked. They are powered with the same engines as those used in the boats on the English Shore and are worked in the same manner; these boats do long-line and some net fishing.

Designed as Sailing Craft

The Gaspé boats are nearly all designed as sailing craft and converted to power by adding a wide sternpost to the original and cutting an aperture as shown in the accompanying plan. However, some boats intended for power have been built on this general model although they retain the schooner rig.

All the boats in this whole area are very inexpensively built; the steam-bent frames are often saplings run twice through the saw so that they have flitch-edges. The hulls are iron-fastened and are built entirely of local timber. No floor timbers are used, the heels of the frames being nailed to the top of the keel where they butt at the centerline of the hull. There are usually two berths and a small stove in the forecastle. The foresail has no boom, lug-fashion, and the rigging is of the simplest nature. These

boats are extremely seaworthy and, for their length, among the safest small fishing boats in North America.

The Gaspé boats are probably descendants of the old colonial fishing shallops; at any rate they usually have the same deck arrangement as the old Chebacco Boat or New England fishing shallop of the 18th century. They also seem to resemble the Labrador Whaler, once a standard model of double-ended sail-and-row boat built extensively in New England and Nova Scotia for the shore fisheries in Labrador and Newfoundland.

Economical to Operate

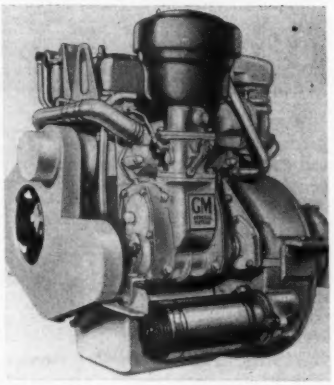
The Gaspé boats are economical to operate. They are adequate for their work though it may be desirable, if more of the type were built, to lengthen the run somewhat so as to obtain greater speed under power. A lighter engine of somewhat greater power also would have advantages. The retention of the sailing rig, for the present at least, seems desirable as the cost of fuel is high. The establishment of shore facilities for storing fish, by the Provincial Government, has bettered the position of the Gaspé fishermen but the cost of shipping fish will prevent the boatowners from obtaining prices equal to those in Nova Scotia and New England, and this makes it desirable that the Gaspé fishermen have more economical boats.

The Gaspé boat, with the two modifications suggested earlier, would be well suited for fisheries in primitive areas, such as the coast of northern Labrador, for the boat can be worked under either sail or power as daily conditions warrant and can be readily hauled ashore, to avoid ice, with improvised means. Were the boat to be adopted in such an area, the possibility of a lightweight air-cooled manual-starting Diesel, of say 15 hp., might be examined. The present engine used in the Gaspé boat is simple and reliable in operation but is also heavy and has high fuel consumption; the installation is often poorly done and there is sometimes danger of gasoline explosion.

Equipment and Supply Trade News

General Motors Has New Small-Boat Diesel

A new 35 hp. marine Diesel designed for use as auxiliary and main propulsion power on small lobster, crabbing and fishing boats has been announced by the Detroit Diesel Engine Division of General Motors Corp. The engine is the latest addition to the Division's line of Series 51 valveless, small-boat Diesels, and is 21¾" in height from the crankshaft to the top. It is 27½" wide and has an overall length with 2:1 gear ratio of 52¼". The new Diesel has two cylinders arranged in line and develops its rated shaft horsepower at 2200 rpm. Its continuous rating at 2200 rpm. is 28 shp.



New 35 hp. General Motors Diesel

The power plant has all the simplicity features of the four-cylinder "51" introduced by Detroit Diesel last year, and like all GM Diesels is a two-cycle engine. Bore and stroke are both 4.1", total displacement is 108.3 cubic inches. Standard equipment includes fresh-water cooling. The engine is available with direct drive and with 1.5 and 2 to 1 gear ratios in either right or left-hand engine rotation.

New Stickell Automatic Battery Charger

The Stickell-Wheeler Yacht Co., 1616 Mt. Royal Ave., Baltimore 17, Md., has announced a new model battery charger with approximately 5,000 watts capacity, for 110-120 volt fishing boats. It can handle up to 2,000 watts for battery charging, plus all the power needed to operate lights and heavy equipment.

The Stickell 120-MR is fully automatic in that it shifts boat lights and electrical equipment receptacles from batteries to shore current when plugged in; charges batteries with a separate circuit and keeps them full with a battery-saving trickle charge; then shifts lights and receptacles back to batteries when disconnected from shore current. This prolongs the life of batteries appreciably, since there is no drain at all on them as long as the 120-MR battery charger is in operation.

Hudson American Remote Control Telephone

A powerful new marine radio telephone with a unique type of portable remote control, which is designed for long range operation aboard commercial fishing vessels, has been announced for the coming Summer season by Claude Neon, Inc. Made by The Hudson American Corp., a wholly owned Claude Neon subsidiary, the 100-watt, 10-channel "Corvette" covers the marine band from 2,000 to 18,000 kilocycles, and will enable fishermen to keep in constant touch with their home ports even when they venture far out into the ocean. Its 10 channels eliminate the necessity for frequent crystal replacements and associated readjustments, as a vessel moves from one fishing area to another.

The portable control receiver, which weighs only five pounds, is particularly important in the light of a new FCC regulation. This requires that all marine radio telephone calls originate on 2182 kilocycles (the international calling and distress frequency) before they are switched to the "working frequency". With the older types of remote control apparatus, on which channels cannot be remotely selected, the operator must arrange to switch from calling to working channels at the local operating position of the equipment.

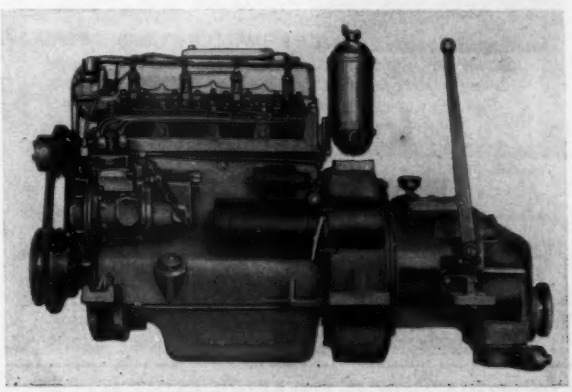
While the "Corvette's" transmitter remains in the cabin, its small portable receiver can be plugged into electrical outlets located at any point aboard the boat, which in emergency could mean the saving of precious seconds. In addition to channel selection, the portable receiver also allows for both turning the receiver on and off, for control of receiver volume and transmitter output power. It features, too, a built-in intercommunication system for calling from bridge to cabin or to and from other stations aboard the vessel, wherever an electrical outlet is located.

Howard C. Johnson, new general manager of the Ederer Division of The Linen Thread Co., Inc., at Chicago. Mr. Johnson formerly was vice-president and general manager of the Adams Net & Twine Co. He continues in charge of the business of the Adams Division through the Chicago office, and the Pauls Division also is under his management. Mr. Johnson originally was with the National Net & Twine Co., and brings 15 years of experience to his new position.

Red Wing Has New Medium-Duty Diesel

Production of a new 4-cylinder Diesel engine for boats 22 to 35 feet in length has been announced by the Red Wing Motor and Manufacturing Co. of Red Wing, Minn. Designed for commercial craft, the medium-duty engine develops 35 to 45 hp. at 2,000 to 2,400 rpm. With a 3½" bore and 3¾" stroke, the power plant displaces 144 cu. in. and is available in direct drive type or with reduction gearing in ratios up to 3:1.

The engine has Bosch fuel injection system, 12-volt heavy duty electric starting motor and generator, heat exchanger for complete fresh water cooling system and Joes reverse gear. Glow plugs for quick cold weather



New Red Wing Model D4 35-45 hp. Diesel.

starting and removable dry type cylinder inserts are additional features of the overhead valve engine. The unit is also equipped with oil cooler and filter, fuel filter, governor and fuel supply pump. Full pressure lubrication is used throughout.

Specifications of the new Diesel are: weight, direct drive—825 lbs.; weight, with reduction—875 lbs.; overall length, direct drive— 42⅞"; overall length, 2:1 reduction —46⅝"; width between bolting down holes— 23"; height above crankshaft center—19 13/16"; depth below crankshaft center—9 13/16".

Fram Offers Water Separator and Fuel Filter

New Fram water separator and fuel filter combination unit.

A new patented filter for marine use, which is claimed to remove 100% of the water from Diesel and other fuels, is being introduced by the Fram Corporation, Providence 16, R. I. The new unit, known as the Fram water separator and fuel filter, has been thoroughly field tested in marine installations.

In recent years, the presence of water in Diesel fuel has been discovered to be as dangerous as solid contaminants. Water causes acid corrosion of injector parts; and when water in the fuel flows at high speed, a severe wearing action is set up between the highly polished surfaces of valve seats and the finely machined holes in the injector nozzles.

The new Fram water separator and fuel filter is a combination unit mounted in series consisting of a fuel filter and water separator unit, both using replaceable cartridges. The fuel filter unit filters out dirt, rust, and other solid contaminants down to 1 micron, while condensing water in the fuel into large droplets. Then the clean fuel passes through a connecting nipple into the water separator unit. Water collects on the outside surface of the separator cartridge, and drops into the sump. The water is easily removed from the filter sump by a drain valve.

By the time the fuel reaches the outlet of the second unit, it has been micronically filtered free from solid contaminants, and 100% of the water has been removed. The unit is said to work equally well on both fresh and salt water. It can be quickly and easily installed on marine Diesel engines up to 225 hp. Fram also manufactures larger liquid separator units for higher horsepower ship engines.

National Supply Co. Issues Two New Bulletins

Lister stationary Diesel engines, including five models of 9 to 54 bhp. with one to six cylinders (3.75 x 4.5 in.), are described in a new 8-page illustrated bulletin (No. 5303) by The National Supply Co., Engine Division, Springfield, Ohio. Design features, specifications, and dimensional diagrams are included.

The National Supply Company's Model 35 Atlas Imperial marine Diesel engines are presented in another 8-page illustrated bulletin (No. 419). Design and operating features, construction specifications, performance curves, and dimensions are given for a 4-cylinder engine, 110 hp. at 1000 rpm.; and for two 6-cylinder engines rated 195 hp. and 300 hp. (supercharged) at 1225 rpm.

Officials of Sperry Gyroscope Company's new Marine Division. From left to right: John L. Hammond, manager; Frederick D. Braddon, chief engineer; and William R. Griswold, sales manager.

New Sperry Gyroscope Marine Officials

Appointment of two executives to key positions in the new Marine Division of the Sperry Gyroscope Co. has been announced by John L. Hammond, manager of the recently-organized facility to be located at Roosevelt Field, Long Island, N. Y. Frederick D. Braddon, Sperry director of marine engineering, becomes chief engineer of the Division, while William R. Griswold, Sperry representative to the U. S. Navy, becomes Marine Division sales manager.

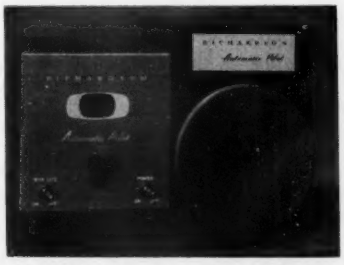
Mr. Griswold, a licensed master mariner, is a graduate of the U. S. Merchant Marine Academy, Kings Point, L. I. He joined Sperry in 1946 as master of the Sperry laboratory vessel *Wanderer*. Aboard the *Wanderer*, he initiated the first loran surveys of the Gulf Stream, detecting and locating its currents by loran, and explored this accurate means for using these currents to speed coastal shipping.

Mr. Braddon joined the Sperry Gyroscope Co. in 1935. His 25 years in the engineering profession have been devoted principally to research and product engineering in the manufacture of gyroscope instruments and automatic controls as applied to marine and aircraft navigation. As chief engineer of the Marine Division, he will direct research, development, and production design of maritime and Navy equipment including gyro compasses, automatic steering systems, and stabilization devices.

Mr. Hammond, who recently was named to head the new Marine Division, is an engineer who has gained widely varied experience in sales, planning, pricing, manufacturing, and field engineering since joining Sperry in 1940. He has served as shop superintendent, manager of Navy contracts, director of field service engineering, and director of commercial sales.

Richardson Has New Automatic Marine Pilot

A. Richardson and Son of Providence 5, R. I., have announced a new automatic marine pilot which is suitable for commercial craft up to 60' in length. Claimed to be new in concept and design, this low-cost unit has a rapid course recovery due to an exclusive multistage positioning that immediately applies the needed rudder to keep the vessel on the desired set course in all types of seas and at various speeds.



New Richardson automatic marine pilot.

Its functional design makes the Richardson automatic pilot easy to install anywhere on the bridge. All needed parts are supplied with the unit. The Standard Model Richardson automatic pilot can be supplied for 6, 12, 24 or 32 volt D.C., with a power consumption of approximately 35 watts. Remote control for maneuvering is optional.

Effect of Climatic Changes

(Continued from page 20)

happening on his land. He knows the limits of his piece of the environment and he can put a fence around it which will contain his crops and his animals; and there they will stay until he is ready to harvest them.

The fishery man enjoys none of these advantages. The environment in which he is most interested—the body of water in which dwell the fishery stocks that give him his living—is continually moving, changing direction, position, levels. Now it is close to the shore; now far at sea, now at the surface, now deep in the depths. It expands and contracts, like a living thing; and as far as we can tell, the fishery stocks which it contains tend always to fill it to its capacity and to remain in it wherever it goes. But its capacity evidently also changes constantly.

Fish Limited to Certain Types of Environment

All the evidence which has accumulated about the natural history of aquatic animals indicates that their environments have limits beyond which they cannot stray very far. One of the most obvious boundaries of the territory in which an aquatic animal can live is temperature. Fish are exceedingly sensitive to temperature, as illustrated by the following:

Dr. H. O. Bull, a marine biologist working at the Dove Marine Laboratory, Cullercoats, England, became interested in learning just how sensitive a fish is to various qualities of the environment. What does a fish feel? That was the sort of question he asked, a very difficult question because fish feel and respond to many different stimuli. So it was necessary to build special aquaria designed to permit him to exclude all stimuli except the one being studied.

Dr. Bull carried on a number of experiments to test the sensitivity of cod fish to temperature. First he conditioned the fish to associate the presence of food with a change of temperature. Then, having done that, he determined what degree of change the subject fish would respond to by observing the minimal temperature at which it would perform a complex task in order to get food.

He kept the fish in a specially-constructed tank with the floor inclined so that one end was deep enough to provide a habitable living space and the other end extended out of the water. Dr. Bull introduced the food into a chamber at the upper end of the inclined floor. Gradually, over the many days that the conditioning process went on, the subject fish learned that food was in the chamber when the temperature of the water increased. As this association became more and more firmly established, the subject fish became conditioned to move up the inclined plane. At the same time, the food chamber was gradually moved upward, day by day, ever farther out of the water.

At last the fish learned to go quite out of the water, wriggle into the food chamber and there wait practically high and dry until food was given, which it then seized sharply and swam back to its normal position in the deep part of the tank. There was no mistaking the response. If the fish detected a change of temperature, it went through this performance; otherwise it did not.

With such experiments, Bull demonstrated that under some circumstances, sea fishes react purposefully to changes in temperature of only 0.03°C, and in salinity of 0.2 parts per thousand. These results suggest how some striking changes in marine climate that have been observed in recent years can affect the fish directly.

Various groups of fishes are confined to certain types of environments and in particular to certain temperature zones. Is there any evidence that there could have been important changes in the location of the boundaries of these zones in recent years that might account for changes in accessibility or abundance of the fishes? In places yes, as the following data will show:

(Continued on opposite page)

Deviation of average monthly temperature at New Haven, Conn. from a 150-year average shows irregular fluctuations and a trend towards warmer Winters and Summers beginning about 1890 or earlier. Here it has been demonstrated that air temperature and sea surface temperature are positively correlated.

Many European scientists have pointed out evidence that arctic and sub-arctic areas have been warming, and that there have been pronounced changes in flora and fauna.

The difference between average Winter (January) and Summer (July) temperatures at the surface of the sea water at Boothbay Harbor, Maine, has decreased since about 1920, indicating an increased mildness of climate. The catch of lobsters in Maine is positively and significantly correlated with the temperature of the surface of the sea water as measured at Boothbay Harbor. The commercial lobster yield in Maine during the period 1918-1951 increased from 8 million lbs. to over 20 million lbs.

Rhode Island is near the Southern end of the range of lobsters. During a series of years of relatively cold Winters in Rhode Island, lobster fishing flourishes; during a series of warm Winters, it languishes.

Fish Move to Cooler Zones

There are various ways by which climatic changes can affect food fishes. Most directly and simply, they can change the location of the environment having the physical characteristics to which the fishes are physiologically adapted.

If a fish feels uncomfortable because it is too hot, it will move into a cooler zone. This is probably true not only of fishes but of all other classes of animals. Warming encourages invasion by predatory species from warmer zones, and these drive out the former dominating residents. This sort of action may go on all the way along the food chain.

Another effect of changing climate is to stimulate diseases to burst into epidemic proportions. There is mounting evidence that fungi and viruses, which are very sensitive to temperature changes, sometimes severely decimate populations of marine animals and plants.

Striking examples of changing distributions are given by the spread of the mussel parasite and the green crab in the North Atlantic; the Northward spread of the cod into the arctic; the return of menhaden to the Gulf of Maine; the shift in composition of the species of shrimps of the Gulf of Mexico; and of shads off the coast of India.

Biologists have been rather slow to become aroused to the possible significance of these changes. Those in countries bordering the Atlantic were first to become interested, perhaps because the effects are more striking in the North Atlantic. Gradually this interest is spreading to other parts of the world, and scientists are beginning to consider the possibility that we are dealing with a world-wide phenomenon.

Alabama Hard Crab Production Shows Substantial Gain

Totalling 847,100 lbs., production of hard crabs in the Mobile and Bayou LaBatre area of Alabama for the year 1953 showed an increase of more than 200,000 lbs. over 1952. During the month of December the hard crab yield amounted to 29,300 lbs., as compared to only 6,900 lbs. in the same month of 1952.

Landings of shrimp in the Mobile and Bayou LaBatre region for the year (exclusive of shrimp used for drying) fell to 19,000 barrels from 22,700 the previous year. About 10,000 barrels of the 1953 catch went to canneries.

The yield of oysters in this section was 44,900 barrels, or approximately 10,000 barrels less than in 1952. Canneries took 35,400 barrels of the 1953 oyster output.

Salt-water fish production in the region was off by more than 400,000 lbs. The catch for the year 1953 was 2,377,750 lbs., against 2,805,500 lbs.

Fish Landings

For Month of February

Hailing fares. Figure after name indicates number of trips.

NEW YORK

Buzz & Billy (1)	31,300	Katie D. (3)	149,500
Carol Jack (2)	55,600	Lady of Good Voyage (2)	120,500
Catherine C. (2)	76,000	Marion & Alice (3)	138,200
Charlotte M. (2)	70,500	Maris Stella (2)	76,500
Clipper (3)	178,400	Miriam A. (3)	86,500
Edith L. Boudreau (2)	110,500	Muskegon (1)	12,000
Evelina M. Goulart (2)	110,000	Positive (3)	146,200
Felicia (1)	72,000	Richard Lance (2)	41,500
Florence B. (3)	54,700	St. Rita (2)	24,000
Gloria F. (1)	19,000	S. No. 31 (2)	40,000
Golden Eagle (2)	109,500	Teresa & Jean (1)	41,000
Hazel B. (2)	90,200	Tina B. (2)	91,500
Joseph S. Mattos (2)	122,500	Wild Duck (1)	64,000

Scallop Landings (Gals.)

Beatrice & Ida (2)	2,150	Olive M. Williams (1)	400
Nellie Pet (2)	2,150	Whaling City (1)	800

NEW BEDFORD

Adventurer (2)	17,500	Madeline (1)	3,500
Anastasia E. (2)	9,300	Malvina B. (1)	9,400
Annie Louise (2)	11,800	Mary & Joan (1)	26,800
Annie M. Jackson (2)	16,300	Mary E. D'Eon (2)	33,700
Arthur L. (3)	51,000	Mary Tapper (3)	68,200
		Molly & Jane (2)	21,800
Carl Henry (3)	80,500		
Catherine T. (1)	17,500	Nancy Jane (1)	13,500
Christina J. (2)	41,500		
Connie F. (1)	19,800	Pauline H. (4)	218,700
		Phyllis J. (3)	22,700
Elva & Estelle (3)	15,800		
Eunice-Lilian (2)	37,100	Roann (2)	32,200
		Roberta Ann (2)	31,200
Falcon (2)	47,000	R. W. Griffin, Jr. (1)	21,000
Gladys & Mary (3)	79,800	St. Ann (1)	9,500
Growler (1)	23,000	Sea Hawk (Boston) (2)	53,000
		Solveig J. (2)	43,500
Harmony (1)	13,500	Sonya (1)	5,200
Huntington Sanford (2)	10,500	Southern Cross (2)	9,300
		Stanley B. Butler (3)	158,500
Invader (2)	32,000	Sunbeam (3)	50,800
		Three Bells (2)	8,600
Jacintha (2)	57,700		
Joan & Ursula (2)	38,800	Venture 1st (3)	64,500
Junojaes (3)	67,300	Victor Johnson (3)	62,500
		Viking (3)	79,000
Kelbarsam (2)	9,800		
		Whaler (3)	96,300
Louis A. Thebaud (2)	42,000	Winifred M. (2)	13,500

Scallop Landings (Lbs.)

Abram H. (1)	4,000	Lauren Fay (2)	22,500
Aloha (1)	7,000	Linus S. Eldridge (2)	25,700
Alpar (2)	17,500	Louise (2)	25,400
Amelia (1)	8,300		
		Major J. Casey (1)	7,500
Babe Sears (2)	25,500	Malene & Marie (2)	23,000
B. Estelle Burke (1)	8,500	Maridor (1)	11,000
Bobby & Harvey (2)	17,500	Marmax (2)	24,300
Brant (2)	22,500	Mary & Jenny (1)	10,700
Bright Star (2)	25,200	Mary Anne (2)	20,400
		Mary Canas (2)	10,600
Carol & Estelle (2)	7,500	Mary J. Hayes (2)	21,200
Carolyn & Priscilla (1)	7,000	Moonlight (2)	21,250
Catherine & Mary (1)	6,000		
Charles S. Ashley (2)	18,500	New Bedford (2)	19,600
		Newfoundland (2)	21,425
Dartmouth (2)	9,500		
David A. (2)	9,300	Pearl Harbor (1)	10,500
Debbie & Jo-Ann (1)	9,200	Pelican (2)	23,700
Doris Gertrude (2)	24,000	Porpoise (1)	2,700
Eleanor & Elsie (1)	6,300	Red Start (2)	16,700
Elizabeth N. (2)	19,100	Rosalie F. (1)	10,400
		Ruth Moses (1)	8,000
Fairhaven (2)	25,600		
Flamingo (2)	24,000	Sea Ranger (1)	7,000
Fleetwing (2)	23,200		
Friendship (1)	7,000	The Friars (1)	7,200
Gambler (2)	9,700	Ursula M. Norton (2)	24,000
Ida K. (2)	19,000	Vivian Fay (2)	30,000
Janet & Jean (1)	8,500		
Jerry & Jimmy (1)	13,000	Wamsutta (2)	19,800
John G. Murley (1)	9,000	Whaling City (1)	2,000
		Wm. D. Eldridge (1)	10,000
Kingfisher (2)	24,000	Wm. H. Killigrew (2)	22,400

GLOUCESTER

Alden (2),	9,000	Little Joe (8)	16,000
American Eagle (5)	21,000	Lucy Scola (6)	9,500
Annie (5)	6,000		
Anthony & Josephine (10)	14,000	Madame X (2)	1,500
Ave Maria (2)	87,000	Maria Immaculata (6)	37,500
		Mary (6)	10,500
Baby Rose (1)	16,000	Minkette 1st (6)	7,500
Brookline (1)	86,000	Mother Ann (2)	485,000
California (4)	23,500	Natale III (6)	39,000
Cara Cara (2)	187,500	No More (1)	1,000
Carlannsul (5)	9,500	Novelty (7)	22,000
Carlo & Vince (1)	7,000		
Catherine (2)	4,000	Ocean Life (2)	8,000
Catherine Amirault (2)	337,000	Ocean Wave (3)	72,000
Cigar Joe (4)	13,500	Olympia (1)	7,000
Columbia (2)	241,000		
Curlew (1)	161,500	Peggie Bell (2)	2,000
		Priscilla (2)	2,000
Dawn (6)	6,000	Puritan (1)	61,000
Dolphin (2)	165,000		
Dorchester (1)	200,000	Quincy (1)	185,000
Doris F. Amero (3)	124,000		
		Robert & Edwin (6)	9,500
Eddie & Lulu M. (8)	7,500	Rose & Lucy (3)	17,000
Eleanor Mae (5)	6,000	Rose Mary (2)	19,000
Emily Brown (1)	135,500	Rosie & Gracie (4)	33,000
Eva II (8)	9,000		
		Sacred Heart (6)	11,000
Falcon (7)	12,000	St. Anthony (2)	270,500
Florence & Lee (1)	185,000	St. Francis (6)	20,000
Frances R. (6)	74,000	St. John (8)	9,000
Frankie & Jeanne (4)	5,500	St. Joseph (2)	12,000
		St. Mary (5)	24,500
Gaetano S. (2)	119,000	St. Nicholas (1)	124,500
Gertrude E. (2)	3,000	St. Peter II (1)	102,000
Giacoma (2)	2,500	St. Providenza (9)	18,000
		St. Rosalie (2)	11,000
Helen B. (3)	25,000	St. Theresa (6)	40,000
Holy Family (1)	114,000	Salvatore & Grace (3)	29,000
Holy Name (3)	18,000	Sarah M. (1)	1,000
		Sebastiana C. (1)	3,000
Ida & Joseph (4)	31,000	Serafina N. (6)	35,000
Immaculate Conception (4)	34,000	Serafina II (4)	46,000
Irma Virginia (2)	3,500	Stella Maris (1)	3,500
		Sylvester F. Whalen (1)	157,000
Jackie B. (2)	33,000		
Jackson & Arthur (4)	6,500	Theresa M. Boudreau (2)	393,000
Johnny Baby (8)	9,000	Trimembral (2)	1,500
Joseph & Lucia (2)	250,000		
Josephine P. II (1)	36,500	Villanova (2)	475,000
Josie II (8)	13,000	Vincie N. (1)	7,000
		Virginia Ann (4)	10,000
Kingfisher (1)	51,000		
		We Three (1)	500
Linda B. (7)	18,000	White Owl (5)	12,000
Little Flower (8)	79,000	Winthrop (2)	4,000

PORTLAND

Agnes & Elizabeth (3)	166,200	Marie H. (1)	2,400
Alice M. Doughty II (5)	68,900	M. C. Ballard (3)	117,300
Althea Joyce (1)	43,000	Medan (1)	220,000
Araho (2)	59,400	Patricia R. (1)	69,400
Batavia (1)	250,000	Pocahontas (2)	147,700
Courier (2)	148,700	Polaris (2)	187,100
Elinor & Jean (5)	70,700	Silver Bay (1)	180,200
Ethelina (5)	112,600	Theresa R. (1)	102,500
Gulf Stream (2)	390,800	Vagabond (2)	72,900
John J. Nagle (3)	109,800	Vandal (3)	141,500
Lawrence Scola (3)	18,700	Wawenock (2)	430,000

Scallop Landings (Lbs.)

Adele K. (2)	17,596	Mary & Julia (2)	22,624
Andarte (2)	24,904		

STONINGTON, CONN.

America (9)	5,200	Lisboa (2)	600
Bette Ann (6)	3,600	Little Chief (1)	1,900
Carl J. (4)	2,200	Mandalay (1)	800
Carolyn & Gary (6)	4,500	Marise (6)	2,300
Catherine (5)	2,500	Mary A. (5)	2,400
Connie M. (3)	1,600	New England (4)	2,100
Diana (2)	500	Old Mystic (8)	2,700
Fairweather (2)	2,600	Our Gang (3)	3,900
Hour (1)	400	Theresa (1)	2,300
Irene & Walter (8)	5,400	Weezie May (2)	600
Jane Dore (2)	800	William B. (10)	5,500
Lt. Thomas Minor (2)	2,200		

WOODS HOLE

Cap'n Bill II (1)	9,900	Madeline (2)	6,800
Eugene H. (1)	13,100	Priscilla V. (2)	19,000
Gertrude D. (2)	31,700		

Scallop Landings (Lbs.)

Amelia (1)	9,473	Palestine (1)	8,059

BOSTON

Agatha & Patricia (3)	77,500	Michigan (2)	262,700
Angie & Florence (1)	5,500		
Arlington (3)	428,700	Nancy B. (3)	34,600
Atlantic (2)	258,000	Nautilus (2)	97,800
		Neptune (2)	151,500
Baby Rose (3)	139,900	Notre Dame (2)	48,900
Bay (2)	220,000		
Bonaventure (2)	219,500	Ocean (1)	100,700
Bonnie (2)	310,500	Ohio (2)	105,500
Bonnie Lou (2)	209,700	Olympia (1)	24,800
Breaker (1)	114,500	Olympia La Rosa (2)	52,500
Brighton (2)	192,500		
		Pam Ann (2)	184,800
Calm (2)	298,500	Patty Jean (2)	280,100
Cambridge (2)	212,500	Phantom (2)	321,000
Catherine B. (Drag.) (2)	33,500	Pilgrim (2)	157,100
Catherine B. (L.T.) (2)	8,400	Puritan (1)	56,000
Comet (1)	89,800		
Crest (1)	112,000	Racer (1)	254,100
		Raymonde (4)	207,700
Diana C. (2)	16,100	Red Jacket (2)	314,700
Drift (2)	281,000	Rosa B. (1)	94,000
		Rosalie D. Morse (2)	187,000
Elizabeth B. (1)	63,000	Rush (2)	253,000
Estrela (2)	226,300		
		St. Anna (4)	23,100
Flying Cloud (2)	286,000	St. Joseph (2)	54,200
Francis L. MacPherson (1)	72,800	St. [illegible] (1)	102,500
		St. Victoria (3)	87,600
Geraldine & Phyllis (3)	95,000	San Antonio II (2)	10,800
		Santa Maria (4)	48,900
Hilda Garston (2)	164,200	Santa Rita (5)	22,000
Holy Family (1)	119,200	Savoia (4)	21,100
		Sebastiana C. (1)	20,000
Jane B. (2)	178,100	Sunlight (1)	75,000
J. B. Junior (2)	245,200	Swallow (2)	206,500
Jennie & Lucia (3)	60,600		
Josephine F. (2)	7,800	Texas (2)	150,200
Josephine P. II (1)	33,500	Thomas D. (3)	125,200
		Thomas J. Carroll (2)	120,900
Killarney (1)	88,500	Thomas Whalen (2)	174,500
		Tide (2)	296,000
Leonard & Nancy (2)	56,600	Triton (2)	204,300
Lucky Star (2)	222,900		
		Villanova (2)	109,200
Mabel Mae (2)	157,400	Virginia (1)	63,500
Maine (2)	289,300		
Manuel F. Roderick (4)	194,400	Wave (2)	294,500
Margaret Marie (1)	1,500	Weymouth (2)	232,200
Mary & Joan (1)	80,700	Wm. J. O'Brien (2)	154,000
Mary Rose (1)	88,000	Winchester (2)	331,000
Michael F. Dinsmore (2)	83,300	Wisconsin (2)	278,000

Scallop Landings (Lbs.)

Brother Joe (1)	3,000

Howard O. Sturgis, who has been appointed director of the By-Products Division of the National Fisheries Institute. Mr. Sturgis succeeds Mal Xavier, acting director since the resignation of Wayne Waller September 1. Associated with Gorton-Pew Fisheries Co., Ltd., Gloucester, Mass., since 1944 and for the past five to six years manager of their By-Products Department, Sturgis brings to NFI a wealth of knowledge and experience in the field of fishery by-products, as well as in the feed trade.

National Fisheries Convention to Be Held in Cleveland May 2-5

Selling more fish will occupy Number One spot at the opening session of the ninth annual National Fisheries Institute convention at the Hotel Cleveland in Cleveland, Ohio, May 2-5 inclusive. Each year the tempo of NFI conventions steers more and more toward down-to-earth discussions and to attempts to find solutions to problems facing the fishing industry. This year work shops will be held on Tuesday afternoon, May 4, on such subjects as an industry code for blue crabs; voluntary industry standards on fish sticks; the movement of fish products via truck, rail and express, etc.

Canadian Report

By C. A. Dixon

Sardine School Appears

The long-awaited sardine school, although limited in extent, appeared in the waters of southern New Brunswick in February and permitted the operation on part time of the Connors Bros., Ltd. plant at Black's Harbor, N. B. Toward the latter part of the month there was some increase in the overall catch of fish by the purse seiners of Charlotte County.

Fish were caught first at the Wolves Islands, then at Grand Manan and along the mainland shore of the county, chiefly in the Beaver Harbor area. The Connors Bros. factory at Back Bay opened and that of H. W. Welch, Ltd. at Wilson's Beach, Campobello. The Welch factory at Fairhaven, Deer Island, has been made ready to take fish and will be operated immediately when the fish supply warrants a beginning.

All the factories have been well stocked with cans in preparation for a busy season. The fish are said to be of good size and quality.

Grants Made for New Wharves

Several fishing districts in Charlotte County, N. B. are to have new public wharves. In the federal estimates recently passed at Ottawa the following districts have been apportioned money for the building of the wharves: Ingalls Head, Grand Manan; Woodward's Cove, Grand Manan; Beaver Harbor; Maces Bay; White Head, Grand Manan; Fairhaven, Deer Island and Lord's Cove, Deer Island.

Canadian Fishery Landings for 1953

Figures covering the total catch of seafish in 1953 in all Canada (Newfoundland excepted) show that 1,223,699,000 lbs. with a landed value of $63,877,000 were brought ashore as compared to 1,181,523,000 lbs. valued at $63,-358,000 in 1952. A new low was hit for sardine herring landings, which amounted only to 37,067 hogsheads valued at $807,000 as compared to 54,508, valued at $880,000 in 1952.

The highlight of the report had to do with the big comeback in the Pacific coast herring fishery industry, the Autumn fishery having been the biggest on record. During the year 1953 herring landings amounted to approximately 300,000,000 lbs. as compared to 190,000,000 lbs. in 1952. In the month of December alone more than 80,000,000 lbs. with a landed value of $1,101,000 were caught as compared to only 2,538,000 lbs. valued at $43,000 in December, 1952.

What is believed to be a record in respect to the total value of lobsters caught in Canadian waters in 1953 has been noted in the report. Total lobster landings during the year amounted to 42,005,000 lbs. for which the fishermen received $14,585,000 as compared to 43,928,000 lbs. valued at $12,203,000 in 1952. Higher prices for the lobsters accounted for the big rise in total value.

Fishermen Attending School

Through the efforts of the Dept. of Trade and Industry of the Nova Scotia government, a fishing gear school, the first of its kind in Nova Scotia, is helping to make better fishermen in the various coastal centers of the province. The school is under the direction of Capt. L. VanDerZwan of Lunenburg. A classroom was set up in the Hotel Champlain, and a class of 15 fishermen has been studying the art of net making.

Also at the Hotel Champlain, classes have been held for the fishermen in navigation, and those who take the four-week course will be able to go on and write for their coastal certificates.

Great Lakes Producers Enjoy Good Market for Rough Fish

During the early part of the Lenten season, Great Lakes and river fish producers were getting increased calls for suckers, carp, sheepshead, and other "rough" varieties of freshwater fish. Smelt, chubs, herring, pike, yellow perch, as well as virtually all commercial fresh water fish, were finding a good market.

Commercial fishermen operating on ice in the bay areas of Minnesota, Wisconsin, Michigan and on the Canadian side of Lake Superior, generally, were getting light catches of lake trout and whitefish, with an occasional good catch reported.

From Lake Michigan fish production was increased in March, with considerable ice fishing operations under way for smelt, herring, chubs, whitefish, perch, carp, etc. Catches ranged from fair to good. In the St. Ignace, Mich. area of the Straits of Mackinac on Lake Michigan, smelt yields through the ice were sizable.

On Saginaw Bay of Lake Huron commercial net takes of smelt were good, while herring, pike, and lake perch hauls have been fair to good. Ice fishing operations on Lake St. Clair, Lake Erie and Lake Ontario, mostly in bays and inlet areas, have been moderate.

Sizable quantities of sauger, pike, perch, and white fish from Manitoba and Alberta, Canada, are reaching Chicago and Detroit wholesale fish markets. These Canadian fish, although profitable imports for those who deal in them, are providing some competition for United States commercial fish producers.

Some Great Lakes fish producers who are familiar with this threatening competition are advocating "fishermen cooperatives" of their own to produce attractively packaged fish, and fish fillets.

Want Grand Traverse Bay Reopened

A move to reopen Grand Traverse Bay on Lake Michigan to commercial fishing is being supported currently by many sportsmen who ten years ago wanted the commercial fishermen banned from these waters. It appears there are just too many fish in the bay and sportsmen can't catch enough of them. The result is that the fish are undersized because there isn't enough food to go around.

In 1945 the Michigan Legislature closed the waters of the bay to all commercial fishing. This provided more than 100 square miles of Great Lakes fishing for the exclusive use of sport fishermen.

Commercial fishermen take ciscoes, whitefish, suckers, carp, yellow perch and chubs in this section of the state. Banning them from the bay left all species to run hog wild.

Grand Traverse Bay is now full of miniature yellow perch, competing with one another for available food. Smelt have increased to fantastic numbers and are also in competition with perch. Carp are growing to huge size and suckers of five pounds each are common.

Commercial Fishing Course Offered

The University of Michigan's extension division is now offering a comprehensive course on fish and fishing methods in Kalamazoo, Mich. Classes will be held at South Junior High School and will be taught by a group of experts in fisheries research and related sciences.

The course will extend over 16 weeks, with the first meeting scheduled for May 24th. It will cover fisheries management, fish culture and stocking, as well as various problems connected with commercial fishing.

Co-operative Elects Officers

Kermit Kleinke, Marinette, Wis. commercial fisherman, was recently elected president of the M & M Fi

ermen's Cooperative at a meeting in Menominee, Mich. The co-op, which was reactivated after a 10-year lapse in an effort to better marketing of Green Bay fish, chiefly smelt and perch, has 94 stockholders.

Other officers elected were: Wendell Beaucock, vice-president; Joseph Ziminski, Ingallston, secretary-treasurer. Elected to the board of directors were: 3 years—Wendell Beaucock, Joseph Ziminski and Emil Champion; 2 years—Kermit Kleinke, John Barstow, Cedar River, Mich.; 1 year—Stanley Peanoski, Marinette; and Melvin Johnson, Peshtigo Harbor.

Interstate Pact Urged for Lakes

The Michigan Interstate Cooperation Commission has asked the Legislature to authorize state participation in a compact among Great Lakes states for management, control and supervision of Great Lakes waters. The Michigan participation would be made contingent upon similar action by Wisconsin, Illinois, Indiana, Ohio and Pennsylvania. The compact would look forward to a similar relationship with the Dominion of Canada.

The proposed compact would be intended to present a unified front by Great Lakes states on matters affecting water pollution, lake levels, commercial fishing and water use.

More Money for Lamprey Control

Canada's fisheries department plans to increase efforts to rid the Great Lakes of sea lampreys. Finance Minister Douglas Abbott's 1954-55 estimates propose a $100,000 boost in research on methods to destroy the lampreys. The total proposed expenditure is $150,000, compared with $50,000 during the previous fiscal year.

Rhode Island Has Natural Oyster Set in Upper Bay

Rhode Island's anti-pollution drive apparently is beginning to show effects in the state's waters. Last month an oyster grower disclosed that for the first time in 35 years a natural oyster set was observed in 1953 in the upper bay.

Byron Blount of Warren reported that if cleaning up the bay continues, there is no reason to doubt that Narragansett Bay will be raising her own native oysters again. Blount said he and others had observed the natural set on the Bristol and Warren shores along Narragansett Bay, in Greenwich Bay, in the Kickemuit River in Warren, and in Mount Hope Bay. In addition, he said, the set was seen in Cole's River, Lee's River and the Taunton River, all in Massachusetts.

Rhode Island oystermen had to start importing seed oysters just after World War I, due to pollution. In the 35 years intervening, there has been only one natural set of any consequence. That was early in the 1930's just north of Hope Island.

Blount said the set seen last year was not "a commercial bottom set" but was between low water and mid-high tide.

Steel Fisherman Delivered to Alabama Owner

The 61' x 17' x 8' all welded steel fishing vessel *Nancy B.*, built by Blount Marine Corp., Warren, Rhode Island, has been delivered to Willis T. Carpenter of Foley, Ala. She has joined the shrimping fleet out of Gulf Shores.

The vessel is equipped with a 165 hp. General Motors 3-71 Diesel with 4.4:1 reduction gear, driving a Federal 33 x 30, 3-blade propeller through a 3" Monel shaft with Goodrich Cutless bearing.

A special feature of the vessel is her zinc metallized hull. She has a 3-drum haultop Hathaway winch, Raytheon Fathometer Cadet recording depth sounder, and 55-watt Raytheon marine radiotelephone.

Vineyard Bailings

By J. C. Allen

We don't know how many people read this column o ours and maybe its absence in January wasn't noticed a all. But we were hauled out for repairs and some remodel ling, and studying the thing over now that the sea ha flattened out and we can think calmly, it seems to us tha the great American public is entitled to know somethin of what happens to a man when he is towed into dry-doc for repairs to his bilges.

All hands are familiar with the procedure around boat or shipyard when a brig is hauled out for a new se of garboards. Well, they do the same sort of thing in hospital when they get to work on the human carcass!

We were shored and blocked up like a dragger, and w had the dozy material chiselled away exactly as if w were a boat! They hooked on a bilge-pump, set her goin to keep the bays dry where they were at work, and fo weeks thereafter, they kept us painted with aluminu paint below the bends, slapping on a fresh coat every da and sometimes every watch!

Now that we are able to navigate under our own powe except that we carry a mite of a list to starboard, the have looked us over and held a survey and they say tha our new garboards will go longer than the keel and tha we don't ever need to fear ship-worms again because o the paint!

Men of All Ages Scalloping

But we have to log certain other observations. Here w are in the midst of a good-sized shellfishing area. Th heft of our sea-skimmers have been dredging and nettin bay scallops all Winter. Well, naturally, amongst the ni or seven hundred men who follow this seasonal pursu there are all ages from sixteen to sixty-six and likely few even older.

There are more things going on that just go to sho something or other. The converting of things to uses fo which they were never intended, like the lad we hav here who dumps a bucketful of live scallops on the ke of a piano and the critters flutter their shells and pla "Over the Waves"!

What we are leading up to is the fact that there i darned little left alongshore that is natural. Through th years there have been ledges lift where it was soft botto before. A chunk of fishing bank has had the bottom dro out of it completely, and you can't find ground with deep-sea-lead. And now, ye gods, the lobsters have re all winter, and potted in darned good shape too, which the first time on record since Capt. Jack Cabot set th first tub of trawl in Boston Bay.

Weather Has Been Changeable

Anyone might think from all this that the world going to hell, and if you can judge anything from tem perature, then maybe they're right about it!

It is perfectly true that we have had zero weather this neck of ocean and more snow than for years, but th visitations of cold have been brief and they have be both preceded and followed by spells of weather so cusse hot that the grass grew an inch a night, and the wild gee have gone blind with dizziness from altering the cour of their flight north and south!

We make no predictions, but we have seen no less tha seventeen flounders landed, everyone of them freighti a thermometer and if this doesn't mean something, th we are crazy! And a dragger of our acquaintance hau up a goose-fish in his twine recently and the critter beg to disgorge ice-cubes! He chopped the thing open and swore by the Great Hook-block that the darned fish w making 'em! That he was all rigged with trays and a c compartment, square amidships! 'Tis too much for un

Massachusetts Legislature Kills Anti-Seining Bill

The Legislature's joint committee on conservation has thrown out the anti-seining bill which called for preventing seining within the three-mile limit along the coast of Massachusetts. The bill was reported adversely by the committee to the House of Representatives, and the House without debate accepted the adverse report.

The bill came before the committee for hearing on January 28. Over 300 attended the meeting and the opposition was immense. Gloucester sent a delegation of 150 fishermen, all of whom opposed the bill. It would have prevented seining of pogies along the Bay State shores.

Fisheries Association Holds Election

The Massachusetts Fisheries Association at its recent annual meeting elected the following to serve for the coming year: president, Nelson Harrington, B. F. Phillips Co.; vice-president, James Carlson, Baker, Boies & Watson; treasurer, John Dolan, L. B. Goodspeed Co.; assistant treasurer, Sidney Jones, Booth Fisheries Corp.; secretary, Patrick J. Callahan, O'Hara Bros.,Inc.

Directors include Gerard Fulham, Fulham Bros.; L. F. Reynolds, General Foods Corp.; Harold Randlett, F. E. Harding Co.; Frank Delahoyde, Bay Fish Co.; Gregory Zacca, Blue Sea Fish Co.; David Choate, Sr., P. H. Pryor Co.; William Sullivan, Cassius Hunt Co.; Anthony Busalacchi, T. &. J. Busalacchi Co.; Sidney Cohen, Shamrock Fisheries; and Ralph Chiacchio, John Burns Co.

Bill Banning Short Lobster Meat Rejected

The Senate on February 25 threw out a bill calling for a ban on the importation of canned meat from short lobsters. A similar bill was defeated last year because it was believed to be impossible to determine what lobster meat brought here from Maine or Nova Scotia came from "shorts", unless hundreds of inspectors were sent out.

Clam Flats Bill Withdrawn

The bill to throw open all clam and sea-worm flats along the Massachusetts shores to all Massachusetts residents was withdrawn on February 3 by Rep. Beldon G. Bly, Jr. of Saugus. Opponents of the bill from clam communities were present at a hearing.

Dragger Being Repowered

The Boston dragger *Rosie*, owned by Ignatius Ciulla and fishing out of the T Wharf, is being repowered with a 250 hp., 7 x 8¼ Wolverine engine at Tringale's Shipyard, East Boston. The engine is equipped with Snow-Nabstedt 3:1 reduction gear, Twin Disc forward power take-off, Westinghouse Tridyne controls, Winslow filters, and Ingersoll-Rand air starting motor.

Where-to-Buy Directory

Companies whose names are starred (*) have display advertisements in this issue; see Index to Advertisers for page numbers

AIR STARTING MOTORS
Ingersoll-Rand, 11 Broadway, N. Y. 4, N. Y.

ALARM SYSTEMS
Brown Alarm Mfg. Co., Inc., 1631 Filbert St., Baltimore 26, Md.

ANCHORS
Danforth Anchors, 2121 Allston Way, Berkeley, Calif.
*Northill Co., Inc., Los Angeles 45, Calif.

BATTERIES—Storage
Bowers Battery & Spark Plug Co., Reading, Penn.
Crescent Battery & Light Co., Inc., 819 Magazine St., New Orleans 12, La.
"Exide": Electric Storage Battery Co., 42 South 15th Street, Philadelphia 2, Pa.
*Surrette Storage Battery Co., Salem, Mass.
Willard Storage Battery Co., 246 East 131 St., Cleveland 1, Ohio.

BOOTS
*United States Rubber Co., Rockefeller Center, New York, N. Y.

CANS
Continental Can Co., 100 E. 42nd St., New York, N. Y.

CLOTHING
The H. M. Sawyer & Son Co., Cambridge, Mass.
A. J. Tower Co., 24 Simmons St., Boston, Mass.
*United States Rubber Co., Rockefeller Center, New York, N. Y.

COLD STORAGE
Quaker City Cold Storage Co., Philadelphia, Pa.

COMPASSES
John E. Hand & Sons Co., 243 Chestnut St., Philadelphia 6, Pa.
*Marine Compass Co., Pembroke, Mass.
Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.
*Wilfrid O. White & Sons, Inc., 216 High St., Boston 10, Mass.

CORDAGE
American Manufacturing Co., Noble and West Sts., Brooklyn, N. Y.
*Cating Rope Works, Inc., Maspeth, N. Y.
*Columbian Rope Co., Auburn, N. Y.
*The Edwin H. Fitler Co., Philadelphia 24, Pa.
*New Bedford Cordage Co., 131 Court St., New Bedford, Mass.
Plymouth Cordage Co., Plymouth, Mass.
Tubbs Cordage Co., San Francisco, Calif.

COUPLINGS—Marine
Morse Chain Co., 7601 Central Ave., Detroit 10, Mich.

DECK PLATES
J. F. Hodgkins Co., Gardiner, Maine

DEPTH SOUNDERS
*Bendix Aviation Corp., Pacific Div., 475 Fifth Ave., New York 17, N. Y.
*Edo Corporation, College Point, L. I., N. Y.
*Kaar Engineering Corp., Palo Alto, Calif.
*Raytheon Manufacturing Co., 138 River St., Waltham 54, Mass.
*Wilfrid O. White & Sons, Inc., 216 High St., Boston 10, Mass.

DIRECTION FINDERS
Bludworth Marine, 92 Gold St., N.Y. 7, N. Y.
*Kaar Engineering Corp., Palo Alto, Calif.
*Raytheon Manufacturing Co., 138 River St., Waltham 54, Mass.

ELECTRIC GENERATING PLANTS
D. W. Onan & Sons, Inc., University Ave. S.E. at 25th, Minneapolis 14, Minn.

ENGINES—Diesel
The Buda Co., 154th and Commercial Ave., Harvey, Ill.
*Burmeister & Wain American Corp., 17 Battery Place, New York 4, N. Y.
Caterpillar Tractor Co., Peoria, Ill.
*Cooper-Bessemer Corp., Mount Vernon, O.
Cummins Engine Co., Columbus, Ind.
*Detroit Diesel Engine Div., General Motors Corp., Series 51, 71 and 110 Marine Diesels, 13400 W. Outer Drive, Detroit 28, Mich.
*Enterprise Engine & Machinery Co., 18th and Florida Sts., San Francisco 10, Calif.
Fairbanks, Morse & Co., Chicago, Ill.
Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.
P&H Diesel Engine Division, Harnischfeger Corp., 100 Lake St., Port Washington, Wis.
*Kermath Manufacturing Co., 5890 Commonwealth Ave., Detroit 8, Mich.
The Lathrop Engine Co., Mystic, Conn.
Murphy Diesel Co., 5317 West Burnham St., Milwaukee, Wis.
*The National Supply Co., Engine Division, Springfield, Ohio.
Nordberg Mfg. Co., Lincoln Bldg., 60 East 42nd St., New York 17, N. Y.
H. O. Penn Machinery Co., Inc., East River and 140th St., New York, N. Y.
*Perkins-Milton Co., Inc., 376 Dorchester Ave., South Boston 27, Mass.
*Red Wing Motor & Mfg. Co., Red Wing, Minn.
Scripps Motor Co., 5817 Lincoln Ave., Detroit 8, Mich.
Wolverine Motor Works Inc., 1 Union Ave., Bridgeport, Conn.

ENGINES—Gasoline
*Chris-Craft, Marine Engine Div., Algonac, Mich.
*Chrysler Corp., 12211 East Jefferson, Detroit, Mich.
*Ford Marined Engines, 3627 N. Lawrence St., Philadelphia 40-AF, Penna.
Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.
*Kermath Manufacturing Co., 5890 Commonwealth Ave., Detroit 8, Mich.
The Lathrop Engine Co., Mystic, Conn.
Nordberg Mfg. Co., Lincoln Bldg., 60 East 42nd St., New York 17, N. Y.
*Red Wing Motor & Mfg. Co., Red Wing, Minn.
Scripps Motor Co., 5817 Lincoln Ave., Detroit 8, Mich.

ENGINES—Outboard
Evinrude Motors, 4760 N. 27 St., Milwaukee 16, Wis.
*Johnson Motors, 6300 Pershing Rd., Waukegan, Ill.

FILTERS
Fleck Engineering Co., Inc., 1631 Filbert St., Baltimore 26, Md.
Winslow Engineering Co., 4069 Hollis St., Oakland 8, Calif.

FISHING GEAR
*The Harris Co., Portland, Me.
*Westerbeke Fishing Gear Co., Inc., 279 Northern Ave., Boston, Mass.

FISH MEAL MACHINERY
Enterprise Engine & Machinery Co., Process Machinery Div., 18th & Florida Sts., San Francisco 10, Calif.
Standard Steel Corp., 5008 Boyle Ave., Los Angeles 58, Calif.

FLOATS
J. H. Shepherd Son & Co., Elyria, Ohio.
*The Sponge Rubber Products Co., Derby Place, Shelton, Conn.

GENERATING SETS
The Buda Co., 154th and Commercial Ave., Harvey, Ill.
*Detroit Diesel Engine Div., General Motors Corp., Series 51, 71 and 110 Marine Diesels, 13400 W. Outer Drive, Detroit 28, Mich.
Hallett Mfg. Co., 1601 West Florence Ave., Inglewood, Calif.
Nap. J. Hudon, 40 Fish Pier, Boston, Mass.

GENERATORS
The Safety Car Heating & Lighting Co., Inc., Marine Div., P.O. Box 904, New Haven 4, Conn.

HEAT EXCHANGERS
Sen-Dure Products, Inc., Bay Shore 1, N. Y.

HOOKS
Auburn Fishhook Co., Inc., Auburn, N. Y.
*O. Mustad & Son, Oslo, Norway.
*"Pflueger": Enterprise Mfg. Co., 110 Union St., Akron, Ohio.

INSULATION
*"Styrofoam" (Expanded Dow Polystyrene) The Dow Chemical Co., Midland, Mich.

LORAN
*Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.
Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

MOTOR GENERATORS
The Safety Car Heating & Lighting Co., Inc., Marine Div., P.O. Box 904, New Haven 4, Conn.

NETS
*W. A. Augur, Inc., 35 Fulton St., New York
Ederer Division, The Linen Thread Co., Inc., 540 Orleans St., Chicago, Ill.
The Fish Net & Twine Company, 310-12 Bergen Ave., Jersey City, N. J.
*The Heminway & Bartlett Mfg. Co., 500 Fifth Ave., New York 36, N. Y.
The Linen Thread Co., Inc., 105 Maplewood Ave., Gloucester, Mass.
Moodus Net & Twine, Inc., Moodus, Conn.
Joseph F. Shea, Inc., East Haddam, Conn.
A. M. Starr Net Co., 10 Summit Street, East Hampton, Conn.
Sterling Net & Twine Co., Inc., 164 Belmont Ave., Belleville, N. J.

OIL—Lubricating
Esso Standard Oil Co., 15 West 51st St., New York 19, N. Y.
Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.
Shell Oil Co., 50 West 50th St., New York 20, N. Y.
Socony-Vacuum Oil Co., Inc., Marine Sales Dept., 26 Broadway, New York 4, N. Y.

PAINTS
The Federal Paint Co., Inc., 33 Rector St., New York 6, N. Y.
Henderson & Johnson, Inc., Gloucester, Mass.
*International Paint Co., Inc., 21 West St., New York, N. Y.
*George Kirby Jr. Paint Co., 14 Wall St., New Bedford, Mass.
Pettit Paint Co., Belleville, N. J.
*Pittsburgh Plate Glass Co., Pittsburgh, Pa.
*C. A. Woolsey Paint & Color Co., Inc., 250 East 42nd St., New York 17, N. Y.

PROPELLERS
*Columbian Bronze Corp., Freeport, N. Y.
Federal Propellers, Grand Rapids, Mich.
*Hyde Windlass Co., Bath, Maine
*Michigan Wheel Co., Grand Rapids, Mich.

PROPELLER SHAFTS
The American Brass Co., Waterbury 20, Conn.

PUMPS
Jabsco Pump Co., 2031 N. Lincoln St., Burbank, Calif.

RADAR
*Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.
*Raytheon Mfg. Co., 138 River St., Waltham, 54, Mass.

RADIO TELEPHONES
Hudson American Corp., 25 West 43d St., New York 18, N. Y.
*Kaar Engineering Corp., Palo Alto, Calif.
*Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.
*Raytheon Mfg. Co., 138 River St., Waltham 54, Mass.

RANGES—Galley
*Elisha Webb & Son Co., 135 So. Front St., Philadelphia 6, Pa.

REDUCTION GEARS
Snow-Nabstedt Gear Corp., Welton St., Hamden, Conn.
Twin Disc Clutch Co., 1341 Racine St., Racine, Wis.
*G. Walter Machine Co., 84 Cambridge Ave., Jersey City 7, N. J.

RUST PREVENTIVE
*Sudbury Laboratory, Box 780, South Sudbury, Mass.

SEAM COMPOUNDS
Marine Products, Inc., 62 High St., Oshkosh, Wis.

SEARCHLIGHTS
Portable Light Co., Inc., 216 William St., New York 7, N. Y.

SHIPBUILDERS
Blount Marine Corp., Warren, Rhode Island
Conrad Industries, Morgan City, La.
Diesel Engine Sales Co., Inc., St. Augustine, Fla.
Harvey F. Gamage, So. Bristol, Maine.
Liberty Dry Dock, Inc., Foot of Quay St., Brooklyn 22, N. Y.
*Morehead City Yacht Basin, Inc., Morehead City, N. C.
Morse Boatbuilding Co., Thomaston, Me.
*Frank L. Sample & Son, Inc., Boothbay Harbor, Me.
Southwest Boat Corp., Southwest Harbor, Me.

SILENCERS
John T. Love Welding Co., 31 Wharf St., Gloucester, Mass.

STEERING GEAR
The Edson Corp., 141 Front St., New Bedford, Mass.
Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

STERN BEARINGS
*"Goodrich Cutless": Lucian Q. Moffitt, Inc., Akron 8, Ohio.
Hathaway Machinery Co., Inc., New Bedford, Mass.

TRAWL DOORS
*Industrial Blacksmith Shop, 107 Eastern Ave., Gloucester, Mass.

VOLTAGE REGULATORS
The Safety Car Heating & Lighting Co., Inc., Marine Div., P.O. Box 904, New Haven 4, Conn.

WINCHES
Bodine & Dill (formerly Hettinger Engine Co.), Bridgeton, N. J.
Hathaway Machinery Co., Inc., New Bedford, Mass.
Ideal Windlass Co., East Greenwich, R. I.
Stroudsburg Engine Works, 62 North 3rd St., Stroudsburg, Penn.

WIRE ROPE
American Steel & Wire Division, United States Steel, Rockefeller Bldg., 614 Superior Ave., Cleveland 13, Ohio.
*John A. Roebling's Sons Co., Trenton 2, N. J.
*Wickwire Spencer Steel Division of The Colorado Fuel & Iron Corp., Palmer, Mass.

Nautical Facts

Courtesy of "Proceedings of the Merchant Marine Council"

Q. What is a "cofferdam"?

A. A narrow compartment formed by placing two bulkheads close together. It provides an empty space to prevent leaks between compartments forward and abaft of the cofferdam.

Q. Where and how does the law require the name and calling port to be marked on vessels?

A. The name of every documented vessel of the United States is required to be marked upon each bow and upon the stern. The home port is required to be marked upon the stern. These names must be painted or gilded or consist of cut or carved or cast roman letters in light color on a dark background or dark color on a light background. The smallest letters used cannot be less than 4 inches in size.

Q. What are bilge keels?

A. Bilge keels or rolling chocks are longitudinal plates riveted or welded to the outside shell plating along the bilge to reduce the rolling of the vessel.

Q. Describe the general trend of the Gulf Stream from the Florida Straits and give its approximate velocity.

A. From the Straits of Florida north to latitude 31 degrees, thence ENE. to latitude 32 degrees, then a little north of NE. of Cape Hatteras. The maximum current is 11 to 20 miles outside the 100-fathoms curve. Its velocity varies from 3 to 5 knots off Fowey Rocks, to 1.5 knots off Hatteras.

Q. Where is the pivoting point of the vessel?

A. About one-third of her length abaft the stem.

Q. Name seven different means of plotting the ship's position.

A. 1. By dead reckoning.
2. By terrestrial bearings.
3. By observation of celestial bodies.
4. By combination of celestial and terrestrial observations.
5. By a chain of soundings and the course.
6. By radio-compass bearings.
7. Radio bearing and celestial line of position.

Q. What is the difference between the expressions "visibility of a light" and the "circle of visibility."

A. "Visibility of a light" refers to the extreme distance which the light is visible at any height. The candlepower of the light is the determining factor. "Circle of visibility" refers to the distance at which a light is visible when the height of eye is 15 feet above sea level. The height of the light and the height of the observer are the determining factors in "circle of visibility."

Index to Advertisers

CLASSIFIED ADVERTISING

Rates: $1.00 per line, $5.00 minimum charge. Count 9 words to a line. Closing date, 25th of month. Atlantic Fisherman, Goffstown, N. H.

FOR SALE

Cruisers, draggers, auxiliaries—all types and sizes. If you are in the market for anything in that line, please write us—no inquiry too small to merit attention. KNOX MARINE EXCHANGE, INC., CAMDEN, MAINE.

BOAT FOR SALE

Boat *Little Sam,* 71 ft. New Cummins engine, 188 hp. with all new equipment in good condition. Boat fishing now. Very low price asked. Tel. Boston, CApitol 7-2743.

40' FISHING BOAT FOR SALE

40' x 12' x 4½', flush deck. Cummins Diesel, 175 hp. 3:1 reduction. Can be easily converted into dragger. Asking price, $5,000. Picture on request. Apply to Joseph DaRosa, 40 Brightridge Ave., East Providence, R. I.

BOATS FOR SALE

Commercial and pleasure craft—"A boat to suit your requirements." Edwin B. Athearn, Marine Broker, Oyster Pond Road, Falmouth, Mass. Tel. 2074, or 184½ Middle St., Portland 3, Maine. Tel. 5-0439.

ENGINES FOR SALE

One Superior Diesel 6 cylinder, 110 hp. at 1200 rpm., 1¾ reduction swinging 32 x 30 propeller. Good condition. Two gas engines, Curtiss Wright. Direct Vimalert conversion, 550 hp., 2100. L.A.R.A. Good condition. Herbert J. Cavaca, 3581 Main Rd., Tiverton, R. I. Tel. Tiverton 277-M-2.

BOAT FOR SALE

40 ft. fishing boat, new, flush deck, will ice 25,000 lbs. fish. 225 hp. GM Diesel, Hancock hoist, reel 150 fathoms of ½" wire on each drum. Gear ready to work. R. D. F., ship-to-shore radio, Bendix depth recorder. This boat only fished one week, everything new. Herbert J. Cavaca, 3581 Main Road, Tiverton, R. I. Tel. Tiverton 277-M-2.

ENGINE FOR SALE

One Atlas Imperial Diesel engine. Heavy duty 160 hp. In excellent running condition. In boat being used at the present time. Bronze propeller shaft, stern bearing and stuffing box, and propeller included with engine. Gloucester Machine Shop Corp., Gloucester, Mass. Tel. 1450.

DIESEL ENGINE FOR SALE

Buda marine Diesel engine, 90 hp., 2:1 reduction complete with keel cooler, run 750 hours since complete overhaul. Priced right for quick sale, $800.00 F.O.B. L. J. Genung, 1124 Trenton Ave., Point Pleasant, N. J. Tel. Point Pleasant 5-2093 M.

FOR SALE

New England type dragger *Pilhasca.* Heavy construction. 60' x 17' x 9' draft. Rigged both sides. Dragging, scallop. Electronic gear. Write Box 52, Atlantic Fisherman, Goffstown, N. H.

HULL AND ENGINE FOR SALE

Length 96', beam 21.5', D 9.7', oak A.M.C., good c dition. 400 Atlas Imperial 1600 hours; also 120 Mur Diesel with reduction gear, reasonable.

Also dragger, 90' x 20' x 10', able extra well b vessel. Price right. 75 Central St., Boston, Mass. T Liberty 2-7073.

FOR SALE

151 hp. 8 cyl. Superior Diesel, completely overhau with 3:1 Twin Disc clutch and T-D power take-off. A 165 hp. GM Diesel, not abused, with 3:1 Twin Disc cl and T-D power take-off. 48 x 30 x 2½, 48 x 32 x 2½ p pellers. 2½ Hathaway stuffing box and stern bear Hathaway winch with 175 fm. 7/16" capacity. Lands Marine Supply, Inc., 337-345 Commercial St., Prov town, Mass.

DRAGGER FOR SALE

54' x 15'2", draft 6'3", 125 hp. Caterpillar. Radiot phone and fathometer. Thomas Thomassen. West S ville, N. Y. Tel. Sayville 4-865.

DRAGGER FOR SALE

72 ft. x 17 ft. beam fishing dragger with 330 hp. G.M twin Diesel, fully equipped and in very good condit now fishing. No reasonable offer refused. A. Kelly, Commercial Wharf, Boston, Mass., Tel. LA 3-5377.

...'S IN. *Some of the Lay Fleet of twenty- boats. Built by Huron Boat Works, ron, Ohio, and Paasch Marine Service, e, Pennsylvania, boats are 38-footers, ily equipped for trap netting.*

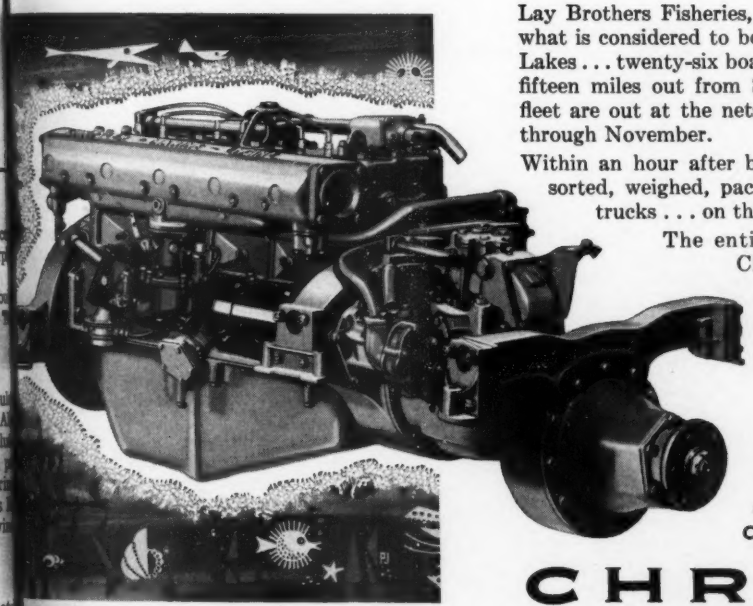
OUTWARD BOUND. *"Perch" and "White Bass" headed for the nets fifteen miles out. Each boat has 3-man crew, takes fish from about eighteen nets a day.*

LIFTING THE NET. *Crew of "Perch," using their power take-off, lift net and remove the catch. Fish are immediately placed in ice-chest aboard ship, assuring continued freshness.*

REAT LAKES FISHING FLEET FINDS...

Chrysler Power

he FASTEST Way to Port and Profits



Lay Brothers Fisheries, Inc. of Sandusky, Ohio, owns and operates what is considered to be the largest single fishing fleet on the Great Lakes . . . twenty-six boats. Lay uses trap nets, located in Lake Erie, fifteen miles out from Sandusky. Weather permitting, units of the fleet are out at the nets as many as four days every week, March through November.

Within an hour after boats reach port with their catches, fish are sorted, weighed, packed in iced crates and in fast, refrigerated trucks . . . on their way to the dinner tables of America.

The entire Lay Fleet—all twenty-six boats—are Chrysler-powered, and for very good reason. As Edward C. Lay, President and General Manager, puts it, "Like everyone else, we're in business to make money. In these days of fast-changing prices, we've found the best way to do that is to *get our fish to market first* and *in the most economical way consistent with quality*. The Chrysler Engines in our boats play a large part in making this possible."

Chrysler power is a profitable investment. See our dealer, or write: ***Dept. 113, Marine Engine Div., Chrysler Corporation, Trenton, Michigan.***

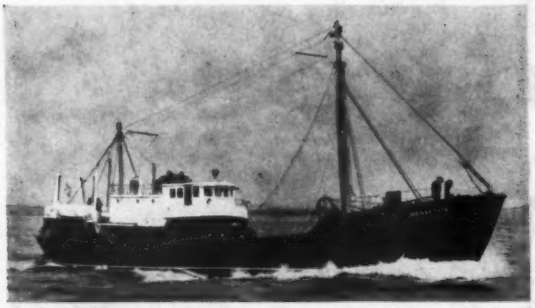
CHRYSLER

AMERICA'S NO. 1 MARINE ENGINE

...ADING. *"Papoose" unloads its catch ike, pickerel, perch, white bass and heads. In a few moments fish will be e fishery awaiting the next step.*

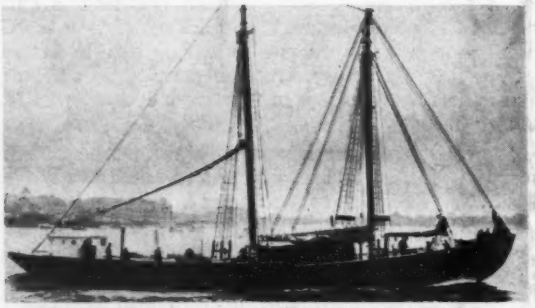
READYING FOR SHIPMENT. *Here another group sorts, weighs and packs fish in crates of ice. Next stop, the market.*

TALKING OVER THE DAY'S CATCH. *Edward C. Lay (right), President and General Manager, and a foreman, Bill Smith. Chrysler Engines are overhauled every three years; some are over twelve years old.*



TRAWLER "OCEAN" (ANNAPOLIS) 16 YEARS

DRAGGER "ROSEMARIE" 17 YEARS



SCHOONER "ADVENTURE" 17 YEARS

SCHOONER "CATHERINE L. BROWN" 12 YEARS

TRAWLER "ST. ANTHONY" 13 YEARS

Another Example of Efficient Power at Lower Cost

A century of performance with

COOPER-BESSEMER *in the engine room*

With hardy Cooper-Bessemer Diesels in their engine ro these six New England fishing vessels have totaled more 100 years of efficient and economical operation.

When it comes to the rugged service demanded of a fi boat, reliability is at the top of the list. If you select Co Bessemer Diesels for your power needs, you are not assured of reliability, but also high efficiency and low m tenance year after year.

Whether your future plans call for powering or repowe it will pay you big dividends to check with your ne Cooper-Bessemer office. Learn about the latest advance now being offered by one of America's oldest engine bui

MOUNT VERNON, OHIO

COOPER-BESSEMER

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New York, N. Y. • Washington, D. C. • Gloucester, Mass. • Seattle, W Houston, Texas • Chicago, Illinois • St. Louis, Mo. • San Diego, C San Francisco, Calif. • Los Angeles, Calif. • New Orleans, Lou Cooper-Bessemer of Canada, Ltd., Edmonton, Alberta—Halifax, Nova S

The fishing vessels shown are equipped with dep able Cooper-Bessemer D varying in ratings from 1 650 hp. Each boat ha long operating record o ing and dragging in the Atlantic waters.

DRAGGER "R. EUGENE ASHLEY" 25 YEARS

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